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OF

AGRICULTURE AND HORTICULTURE.

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THE AMERICAN FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

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"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS."
Virg.

Sixth Series.

BALTIMORE, JUNE, 1869.

Vol. III.—No. 12.

JUNE.

"My banks they are furnished with bees
Whose murmur invites me to sleep;
My grottoes are shaded with trees,
And my hills are white over with sheep,
I seldom have met with a loss,
Such health do my fountains bestow;
My fountains all bordered with moss,
Where the harebells and violets grow."

REMINISCENCE.

Notes continued, from the first volume of the
American Farmer, published in 1819.

THE POTATO—INTERESTING DISCOVERY.—
"Dr. Baldwin, late Surgeon of the Frigate Congress, has decided the controversy respecting the *habitat* of the potato, *Solanum Tuberosum*. He found the vegetable growing abundantly on the North side of the Rio de La Plata; in wild uncultivated situations unknown to the inhabitants, who do not even cultivate this valuable plant."

It is found growing among the rocks in Montevideo, and in the vicinities of Maldonado, in the sand hills on the river shore, as well as in low, moist situations, near streams of water.

In the Historical Remembrancer we find the following record on the subject: "Potatoes brought to England from America by Hawkins 1563; introduced into Ireland by Sir Walter Raleigh 1586; not known in Flanders till 1750. They were natives of a Province of Quito, and are named from the village of Potate, in the Assiente of Aambato in that kingdom."

AMERICAN PLOUGHS PRESENTED TO THE
CZAR OF RUSSIA.—A letter is given from "Samuel L. Mitchell, a citizen of the United States of America, to Alexander, Autocrat of all the Russias," asking his acceptance of "a plough, which is considered generally in these parts of America, superior to any instrument of the kind that has ever been invented." The ploughs, one a model, the other for use, were conveyed by permission, in the *Guerriere*, commanded by Commo're Macdonough. The letter is got up in diplomatic style, names as the inventor Mr. Jethro Wood, "a respectable farmer of Cayuga county, N. York," and as constructor, Mr. Thomas Freeborn, "a very worthy artist of New York." "They both request me," says Mr. Mitchell, "to express their earnest hopes that this *Georgical Utensil*, contrived by the genius of the former, and manufactured by the skill of the latter, may be graciously considered by your majesty."

WASHINGTON COUNTY FARMING.—Frisby Tilghman, Esq., of Washington Co., gives the average product of his farm of less than 200 acres of arable land as follows:

1100 bushels wheat.
1100 " corn.
400 " oats.
300 " rye.
7000 pounds pork.
20 head of grass fed beef.
Between 200 and 300 head of sheep kept.
Winter about 40 head black cattle.
" 15 " horses.

His yards afford him annually 250 to 300 large wagon loads of good manure. This is

put on each of his fields of 27 acres once in 7 years, which with plaster and clover he finds sufficient. Every field on the farm is accurately surveyed, and he finds that in 20 years' experience he has never been able to exceed an average of 30 bushels from a field of 86 acres, though he has often heard of fields producing 40 to 50 bushels.

KELP OR SEA WEED.—A paper is given on the value of kelp or sea weed as a manure. The editor says in a note: "We have understood that Col. Maynadier, the President of the Agricultural Society at Annapolis, is making trial of the kelp on his land, and we shall endeavor to procure the result."

ARTIFICIAL GRASSES.—James H. McCullough gives a valuable essay on the cultivation of artificial grasses. Clover he places at the head of the artificial grasses, considering its beneficial effects upon land, crops and stock. *Lucerne* is the next for large produce, and first of all for green cutting. It is not to be recommended for hay—its value for summer-feeding is enough. It is generally fit to mow about the end of April, a fortnight sooner than any other grass, and will yield on good ground, four cuttings in a season.

Timothy, he says, may be successfully sown in the fall to bring in a crop of clover afterwards in place of oats or barley. A crop of hay is thus gained without the loss of a season. This is his practice, grass alone being his object. The clover seed sown in spring makes a full crop the following year, and with the timothy makes a heavy swathe of choicest hay.

Orchard Grass is an early grower and makes a large appearance, but is neither in weight or quality equal to the foregoing.

Trefoil and Saint Foin.—My experience with these, he says, has determined to me that the first, with no peculiar advantage, is inferior to red clover, in quality. And the latter is not suited to our climate, being unable to endure the sun of our summers.

Other grasses he speaks of, but not from his own experience.

THE AGRICULTURAL CONDITION OF THE LOWER COUNTIES OF WESTERN MARYLAND, is the topic of an earnest writer, who laments "the gloominess of the prospect which presents itself in this section of the State. Dreary and uncultivated wastes, a barren and exhausted soil, half-clothed negroes, lean and

hungry stock, a puny race of horses, scarcity of provender, houses falling to decay, and fences wind-shaken and dilapidated." This state of things is attributed to the exclusive cultivation of tobacco. "It has been the fortune of Maryland, to make tobacco a sole and exclusive crop, for though Indian corn, wheat, &c., are put in the ground, those crops are left to struggle for themselves, it being a favorite maxim of the planter, 'if I can sell tobacco I can buy corn.' It would be a great gain to the State, if the planter could be induced to cultivate tobacco, with a proper rotation of crops. By this means, his lands would be enriched, and the quantum of tobacco diminished in order to secure a proper succession."

A GEOLOGICAL SOCIETY.—Note is made of a Geological Society formed in Connecticut, consisting of Professor Silliman, Col. Gibbs and many other scientific gentlemen.

DE WITT CLINTON.—Interesting extracts are given from an address on American Agriculture and Botany, by Gov. Clinton, delivered before the Literary and Philosophical Society of New York. "Our attention," he says, "ought to be drawn to supplies of the best and most powerful manures. As gypsum has no influence in the atmosphere of the sea, it is a great desideratum to find a substitute equally efficient for the Atlantic parts of the State. Fish, peat, sea weed, street dirt, calcined pyrites, lime, ashes and marl, have been all recommended; and some of them have been tried with great success. The dyking of salt meadows and marshes, and the irrigation of land would be very advantageous. Several plans for a rotation of crops have been recommended, but have not been attended to in a manner due to their importance."

ENTOMOLOGY IN MARYLAND—THE CURCULIO.—Notice is made of an address of Dr. Jos. E. Muese, of Cambridge, Md., on *Entomology*, to the Agricultural Society of Maryland at Annapolis, and the address subsequently published. Among other matters of interest, it contains the following, which shows that we have made, perhaps, little progress since that time in our mode of treatment of that little destroyer, the curculio. After detailing at some length various experiments, he says, "the wings of the insect were not sufficient to accomplish a flight, but merely to

assist its ascent of the body of the tree, from which circumstance I was led to the following reflections, and experiments to test their correctness—that the remedy must be such as to act physically, to wit: To interrupt the metamorphosis, by preventing the descent of the *larvæ* into the earth; to expose to the weather the *pupa* after its descent; or to intercept in its ascent of the body of the tree, the parent insect; or chemically, by substances known to be generally deleterious to that class of animals." "As the larva," he continues, "must descend directly into the earth to undergo its metamorphosis, I concluded, that one of the most effectual preventives, would be paving with brick, stone, shells or some other hard substance, a circular space round the fruit tree, as extensive as the fall of the fruit, by which it would be intercepted in its descent into the earth, and consequently perish."—Another suggestion was to turn up the ground to the action of the frost, but the former method was preferred. Having experimented carefully with these methods, he says: "the result was, the fruit with which I made the experiment that had been destroyed by *cureuliones*, for many years, were in all cases, when I paved or shelled, entirely exempt."

"THE PLOUGH BOY."—Within four months of the first issue of the *American Farmer* we find notice of *The Plough Boy*, a weekly paper printed in Albany, "In size, plan and objects nearly resembling the *American Farmer*, but not being printed so close does not contain, perhaps, so much. The deficiency in quantity, however, is amply made up in the superior quality of the matter," &c.

TRANSPORTATION TO THE PACIFIC.—On page 111 is an interesting article, urging the introduction of "the Bactrian Camel as a beast of burthen for cultivators, and for transportation across the continent to the Pacific Ocean."

A TEN THOUSAND DOLLAR PREMIUM.—The Virginia Agricultural Society, of which Mr. Madison is the President, have eclipsed the whole, and exceeded all other examples in any age or country—they have, it is said, promulgated to pay, four years hence, ten thousand dollars for the best farm in that State, not less than 500 acres—five thousand for the next—two thousand for the third best—the latter not less than 200 and 100 acres. Copied from *New Hampshire Patriot*.

"SOME PUMPKINS" IN ANNE ARUNDEL Co.—Fifty thousand pounds to the acre, on one-twelfth of an acre, is the report of pumpkins raised at Westbury on West river, Anne Arundel Co., in 1819. It was fresh cleared bottom land, but so full of grubs and roots as not to admit the plough. It was hilled up early, worked over and planted about the 20th of May at 4½ feet distance. On the 10th September 41 pumpkins were pulled, weighing 3873 pounds. The largest weighed 152, and others 146, 140, 137, 132, 130 and from that down to 80 pounds. The product, it is said, may be fairly estimated at 50,000 pounds to the acre, at one pulling, in the driest season ever recollected by the owner.

Work for the Month.

This is the season of life, activity, movement; everything in nature is progressive, and the farmer must press forward to be up with his work. All the great crops, wheat, grass, corn, tobacco, demand his especial care now. Grass and weeds on the cultivated ground make equal progress, and being "to the manor born," they are prone to take possession unless diligently excluded. A long rain in June, when grass will live without root almost, makes special difficulty, and it is very necessary, therefore, to keep ahead with the work.

THE CORN FIELD.

Should replanting be necessary, it is very desirable to have it done at the earliest time, that the crop may be as uniform in growth as possible. The working must be promptly done, and the whole cultivation given in quickly successive operations, so that it be completed before it begins tasseling. Supposing always the first ploughing of the ground to have been deep and thorough, shallow working of the surface is all that will be needed, provided it accomplish the purpose of killing the grass. Let the thinning be done as soon as the corn is safe from bud and ground worm.

THE TOBACCO FIELD.

The work of setting the crop is comparatively easy, if it can be completed early in the season. Before the ground gets thoroughly heated by the summer suns the plants grow off more readily, and with much less loss. It is of great importance, on this account, to be

in readiness to plant every hill that there is a plant fit for, before the middle of the month; and also for the additional reason that planting seasons become after that time very precarious. The ground, therefore, must be got in order with dispatch, remembering that the most thorough tith is essential to make the plants shoot up readily and grow off freely. Especial attention must be given to this surface working, if the planting is to be on an inverted sod. If there be any roughness, the roller and harrow must be used until it is entirely subdued. This will make the hoe work comparatively light.

If compost is to be used for manuring, it should be applied and mixed with the surface at the second ploughing; if the fertilizers of the market, apply after the second ploughing, so that they be kept very near the surface. Plaster is applied, about a teaspoonful to each plant, immediately after the first hoeing.— Sometimes the effect of such application is very striking. A large application is thought to injure the quality of the crop.

The first working is with the hoe, scraping the surface carefully away from the plants, and carefully rooting out everything like weed or grass. Some planters prefer going first with small plough or shovel in the rows, throwing the earth from the plants, and following with the hoes.

HAY HARVEST.

Orchard grass and clover must be made into hay during this month, and should not be delayed unnecessarily. The clover cutting, especially, is apt to be delayed till the stems get too woody and the lower leaves perish, making an impalpable dust that injures the quality of the hay. When it comes well into bloom it should be cut. To make sweet hay it must be cured quickly, with little exposure to the sun. A few hours in swath and then thrown into light cocks, where it may remain a day or two, it is fit to be opened to the air, and in a few hours of good weather to be transferred to barn or mow. Orchard grass needs still less drying. It should be cut as soon as it comes into bloom.

WHEAT HARVEST.

So valuable a crop as wheat must be put out of the way of vicissitudes of storm and weather at the earliest day practicable.— Everything, therefore, must be got in readiness in advance. The necessary help for the

labors of harvest should be engaged early, and all the implements require I should be procured and put in order. As soon as the grain passes out of the milky state, the harvest should be promptly begun, as both the quality of the grain and its security from loss demand it.

POTATO CROP.

The general crop of potatoes should not be planted earlier than the middle of the month. The ground should have early a deep ploughing, and before planting another shallow working of the surface, and harrowing. The drills should be made deep, and the sets dropped immediately after opening them, while the ground is moist, and as promptly covered after planting. The fertilizer may be thrown in with the sets, or put on after they are covered.

Great care must be observed that the tubers be not exposed any length of time in the hot sun. Let the seed be cut a week or two in advance of planting, and a little plaster thrown over them, spreading them in a cool place that they may dry.

An experienced potato-grower insists that the best method of preparing seed is to cut to a single eye. He cuts them a month before planting, and spreads on a floor in the light, when the cut heals and the potato withers. At planting time the eye will be started so plainly that you will have an assurance of the set growing off immediately when put into the ground.

FIELD PEA.

The black-eyed pea, or field pea, may be planted for the seed in bunches or drills, or sown broadcast for the improvement of the ground. If only a few be wanted for family use, they may be planted among the standing corn late in the month. What is known as the lady pea, a small black-eyed variety, is perhaps the best for family use, and makes a valuable addition to the store of winter supplies.

MILLET.

Sow one of the varieties of millet on rich or well-manured soil, thoroughly prepared, if any addition is needed to the supply of winter forage for stock. It makes an abundant crop of nutritious hay, very acceptable to horses. A peck of seed is sufficient per acre.

PUMPKINS AND CUMLINGS.

Plant these early in the month, in hills well-manured.

RUTA BAGA.

This is, on the whole, the root best suited to farmers of the Middle and Southern States. It is good for stock feeding; the time of sowing and working is more convenient than that of others, and the necessary cultivation much less. It may be sown the last week in June, or not till the 1st of August. The ground should be so far prepared as to enable you to sow the seed whenever a good rain may come, after the 1st of July. It is made a somewhat precarious crop from the depredations of the turnip fly, and should be sown early to make a stand more certain.

The Vegetable Garden.

JUNE.

The time for sowing of seeds is past, and transplanting, watering, exterminating insects and keeping out grass and weeds now occupy attention. All the garden crops need special care, and at their tender age must be watched, nursed, tended and trained, as they may severally require.

Cabbage, Broccoli, Cauliflower.—Ensure a late crop of all of these by securing an abundant supply of plants. If the seed have failed to give enough plants, sow again now, and force the growth by frequent waterings with liquid manure.

Celery.—Celery may now be planted for early use. The plants must be well protected after being set out, by boards or brush, if the sun be hot, and they must be abundantly watered until well rooted.

Clearing off Early Crops.—Early crops of spinach, radish, lettuce, &c., may be cleared off and the ground occupied with late beets, carrots, &c., or at a later period with cabbage or celery.

Cucumbers.—May still be planted for table use, and later for pickles.

Cymlings.—May be still planted.

Egg-Plants.—If not already done, set these out at once in rich soil, and force with liquid manure.

Herbs.—As the garden herbs come into flower let them be cut on a dry day and spread in the shade to cure. Put out plants of what you may need, as they get size enough.

Insects.—All young plants liable to be destroyed by insects should have their growth forced by some liquid made offensive or de-

structive to insects. Tobacco stems or stalks, horse manure, elder leaves, soot, &c., may be thrown into a hogshead, and water enough thrown on to make an infusion which will not destroy the plants, but may make them distasteful to their enemies.

Lima Beans.—These may still be planted early in the month, if the early planting has failed.

Onions.—If the tops of onions be very luxuriant, and the bulbs do not form, press the tops gently to one side, bending them down to check the flow of sap. Weed carefully, not to disturb the bulbs, and draw no earth to them in working.

Potatoes.—Keep early crop well hoed, drawing earth moderately to them until they begin to blossom, when they should be left alone.

Peas.—A late crop may still be sown.

Roasting Ears.—Corn may still be planted for late use.

Tomatoes.—Make sure of an ample supply of this vegetable. It is well to have a late crop from plants raised in open border.

Transplanting.—In dry weather dip the roots of plants to be transplanted in soft mud prepared for that purpose. Use a trowel in taking up plants, and water several days after transplanting.

Red Peppers.—Plant these out as soon as plants are large enough.

The Flower Garden.

Roses that have been kept in pots should now be plunged in the beds or planted out. Cuttings may be struck and buds inserted at this season.

Carnations and other herbaceous plants should be tied up to neat stakes.

Tulips and Hyacinths, having bloomed, when the tops die off the roots must be taken up and put in a dry and cool place.

Asters, Balsams, Zinnias, &c., may all be planted still in the borders or beds.

Dahlias may still be put in the ground, and the fall bloom of such as are planted now will be, perhaps, better than that of the earlier planted.

Camelias should be removed at once from the green house; they should be frequently syringed in hot weather, to keep the red spider in subjection.

Fuchsias, Cinerarias, &c., should now be in fine condition, and should be admitted freely

to the air in fine weather, and syringed frequently to keep down insects and preserve moisture.

Bedding Plants, should all now occupy their allotted places. Scarlet and other geraniums, heliotropes, verbenas, &c., belong to this class.

Azaleas, should now be placed out of doors. Plunge the pots half way to the rim in sand; put cuttings of the young wood in sand, and keep in a close shady place.

The Fruit Garden.

Strauberies.—When these are out of bearing, the mulch, which has contributed so much to their productiveness, should be removed, to admit of the proper cultivation. If new plants are wanted, runners must be allowed to grow, otherwise the whole life of the plant should be thrown into the parent for the sake of next year's product. It is a mistake to suppose that this fruit *requires* very frequent change of ground. One of the best beds we have ever seen in quantity and quality of fruit, was fourteen years old; but it had been kept highly manured and thoroughly worked, and entirely clear of grass. When the ground from neglect has become grassy, it is better economy, perhaps, to plant new beds than to attempt to clear out the old ones. These may be made at any time when young plants can be obtained, but on account of the dryness of our summers, they are usually postponed to the early fall. No ground should be planted nor no manure used upon them that is not entirely free of grass seeds.

Fallen Fruit should be carefully gathered and destroyed. Remember that every one contains a hidden enemy of future crops.—Take advantage of his fallen state to crush him. A gentle shaking of the tree will cause the punctured fruit to fall freely.

Grafted Trees.—If these have made much growth, protect against storms by tying to stakes. Take off all bandages.

Vines.—Do not now allow grape-vines to be interfered with for any purpose, until the bloom is over. After that, let all young shoots as they advance be carefully tied up. Keep the grass and weeds down, and the ground well stirred around young plants.

Peach Trees.—Look after the worm at the root, the deadly enemy of the peach tree. We know of no remedy, but following him in his

lurking place with a knife-blade, or piece of wire, and killing him there. This work should be done now, if necessary. As in favorable seasons this tree always bears superabundantly, the fruit should be thinned to make it fine.

Peach Trees in Pots.

The general opinion among fruit growers is, that when the mercury falls as low as ten degrees below zero, the fruit buds of the peach will be killed. This may not be strictly true; but it is true that the peach often fails when the winters are severe; and this repeated failure has led many persons to abandon the culture of this most luscious fruit. Now, there is not, perhaps, among all the fruits that can be grown in a Northern climate, one more generally esteemed and admired than this, and the question is often asked, "How can it be raised where the winters are so unfavorable?" We would suggest growing them in pots or tubs, and placing the tubs in a house or warm barn cellar in winter, where they will be perfectly protected from the severe weather. This can not be done on an extensive scale, perhaps, or in such a way as to yield a profit, but may be, to some extent, by every lover of this fruit, to supply his own table. We take great pains to raise grapes and other fruit under glass; and why not take some trouble to raise peaches in this way? The expense is not large; for, if earthen pots are used, they will last many years and serve for many generations of trees; or a cheaper article can be made to answer the purpose. The large size, iron-bound white-lead kegs, sawed in two, make very good tubs for this purpose; and even the light Malaga grape and raisin casks will last as long as one set of trees can profitably be kept. Each tub or pot should hold about three-fourths of a bushel of good earth, and compost well prepared.—*American Journal of Horticulture*.

THE AMERICAN FARMER.—With the present number this magazine enters upon its fifty-first year. Its claim to be the oldest agricultural publication in the United States, is no doubt just, and we may add that neither its vigor nor its energy is impaired by its age. The current number is full of matter interesting and profitable to the class of readers for whom it is especially intended.—*Harford Dem.*

For the "American Farmer."

Drainage—Rotation—Manuring.

CLIFTON, Fairfax Co., Va., April, '69.

MR. EDITOR: We have arrived to a point in agriculture where we must acknowledge the importance of a proper system. Only by adopting such, based on knowledge of the different requirements for the growth of the plants we cultivate, we will be enabled to obtain such profits from farming as we ought to have. The base of our operations is *drainage*, if possible, *subsoil drainage*. You may exclaim: "let us have peace"—we have heard and read enough on this subject." But, sir, it is with drainage as with advertisements,—you read an advertisement perhaps fifty times without taking any notice, and on the fifty-first time you say: "why, they advertise so doggedly, that I will try it anyhow." And so it is with drainage. Farmers may read about it for a year, and the subject constantly being kept before them, they at last conclude to make a trial. If not fully convinced of the benefit, make a small trial. Even the poorest farmer can try it with an acre. The time for the labor required can always be found.—True, there are very few who thoroughly understand the business, and if not properly executed, the result may be a failure. To prevent this, I offer to undertake the superintendence of subsoil drainage for a moderate compensation. As I have had considerable experience in this branch, I feel confident in obtaining the best results. In subsoil draining, there are three important points to be kept in view: first, not to have the drains too far apart; second, not to make them shallower than *two feet and a half*—better *three and three feet and a half*; third, never to lay drains up and down a hill, but *slanting*. As the water is inclined to drain straight down hill, it may remain between two drains; whereas, if the drains are slanting, the water is sure, under all circumstances, to strike a drain within thirty yards, provided the drains are twenty yards apart.

Great many farmers believe that subsoil drainage is only beneficial to low land—but this is an error. Although low and wet land, of course, are most benefited, still subsoil drainage is also of the greatest benefit to high land. Subsoil drainage not only frees the land from surplus water, but creates a circulation of air under the surface. The roots

which have extended deep into the ground are enabled to come into quicker and more thorough contact with the air, which is so essential to the growth of every plant. Furthermore, in dry seasons, the moisture of the night air is circulated through the drains, and enables the plants to withstand a greater amount of drought.

Having prepared your land by drainage, the next thing is to adopt a proper system. By system, we understand a judicious rotation of the different plants we intend to cultivate and the proper preparation and melioration of the land.

In choosing a rotation, we have to take into consideration climate, soil, location, and peculiarities, if such exist. It is impossible to recommend a certain rotation for all localities and soils. Every farmer will have to decide on this subject according to his own judgment. But there are some rules which work *everywhere* and which must be followed, whatever your plan may be. These rules are: to grow a leguminous crop every other year; never to take more than three crops without returning with manure, and to have red clover *at least one* in every rotation. To give an example, we will propose a rotation for clay loam, particularly well adapted to wheat and red clover: 1, corn; 2, barley, manured with clover; 3, clover; 4, clover; 5, wheat; 6, potatoes and turnips, manured; 7, wheat with clover; 8 and 9, clover. Having selected a rotation, the next thing is to prepare the land thoroughly for the crops. Different crops require different preparation, and as it is not our object at present to describe the proper treatment of the soil for all the different crops we grow, we will confine ourselves to say, that *thorough ploughing* in proper season, *careful manuring*, and *plenty of harrowing*, and where required, of *rolling*, are the principal points for every crop. As a general thing, *harrowing* and *rolling* is not *half enough* done in our country. One good ploughing and *harrowing* is equal to *two ploughings*. The same with *rolling*. When the land is lumpy or very loose, a rolling is most beneficial; it breaks the lumps on heavy land and compresses the loose soil.

In applying manure to the best advantage, good judgment is required. Leguminous plants, as potatoes, turnips, cabbage, peas, &c. require rotten manure, whereas wheat, oats, corn, &c. are benefited by fresh manure ap-

plied at the second last ploughing. For top-dressing, compost is the proper manure. The quantity of manure to be applied has to be regulated by the condition of the land and the length of time before the next coat of manure will be given. The most profitable mode of manuring is to give enough for one crop at the time, and to repeat *annually*. By applying a heavy coat at once, you invest a capital which only will return interest in the course of three years; whereas, if you do not apply more at the time than required for one crop, you will have your interest back at the first harvest. Besides, if you give a heavy coat, you run the risk that part of it may be lost by dry rot in dry seasons. Whatever system you adopt, let it never expand over a larger area than you are able to manure *well*. By confining yourself to this principle, you will reap such abundance that you annually can enlarge your field of operations.

L. A. HANSEN.

Agricultural Charity.

George Peabody gave one and a half million of dollars for the poor of London, and already does it seem that it fails to benefit the classes intended. The *Pall Mall Budget* pronounces the whole scheme a failure, and remarks that "this appears to be the destiny of most benevolent intentions." In spite of this unfortunate prospect, Mr. A. T. Stewart, of New York, is about to enter on some such another enterprise. He has already expended a quarter of a million, and is expected to spend two million of dollars on a hotel, to furnish working women with cheap board; and after this is finished, it is his intention to originate and perfect other charitable works of similar character. There is no doubt but that "charities" which have for their object the aiding of those who are really unable to help themselves, are a lasting good. Hospitals, insane asylums, schools, institutions for the encouragement of art and science—these and similar objects are decided benefits to humanity; but such enterprises as these of Messrs. Stewart and Peabody, which are intended for able-bodied people, and partake of an eleemosynary rather than of an industrial character, aggravate the evil they purpose to cure.

There is a way in which these humane gentlemen might do an immense good, and benefit the poor and the country at the same time. It seems remarkable that no one has thought

of or suggested it. We all know that one great source of the poverty and misery that exists, is in the disposition of poor people to crowd into cities, instead of going to, or remaining in the country, to take part in agricultural affairs. There is not work for half who are in the city—there is work for double in the country than what are now employed there. Our farmers' wives are worked to death. Young women will sooner half starve in the cities than hire out on farms. Instead of Mr. Stewart establishing an institution which can only result in still greater inducements for women to pour into the cities, can he not originate something that will induce them to go out into the country and take part in easing our overworked farmers' wives? Could not George Peabody plan some scheme by which the wretched wrecks of humanity who now crawl about our towns in search of something to do, should have cheap homes in the country instead of in the towns? It is hard to see why not. At present our agriculture is in a transition state. Young men of mind do not like farming, because they cannot combine labor in great operations on the land. They must drudge themselves, or go to the city where they can rule and govern, as it were, in this sense. If there were men to be had—if they could combine the labor of men, leading it into the great channels which they feel they can do in the cities—the inducement to leave the country would be gone.

This is no fancy picture. The writer of this endeavored to establish just such an agricultural enterprise fifteen miles from Philadelphia, and had to abandon it from the utter impossibility of getting men to work it; and this, too, while in the city thousands were distressed for the want of work.

It is here lies the true field for the charitable mind. Two million of dollars distributed through every township in Pennsylvania or New York, in erecting houses for the *poor of cities* to go to, rent free, say for four years—on condition that the male portion engage in agricultural pursuits, and the females in domestic service—would do incalculable good. At the end of four years they would be so used to the country as to be able to make their own way, and another lot from the city could take the vacated homes. The houses could be built and managed by the regular overseer of the poor. At any rate, there is no practical difficulty in the way.—*Weekly Press*.

Making a Poor Farm Rich Without Manure.

In our notice last week of the printed transactions of the Essex County Agricultural Society we mentioned, among other valuable papers which it contained, one by Dr. James R. Nichols, of Haverhill, on concentrated manures. Having been aware of the experiments which Dr. Nichols has been conducting on a run down farm, for the purpose of testing the question whether such a farm can be economically restored to fertility by the use of "special fertilizers," or those outside of "barn yard or stable manure," we have waited with some impatience for a statement of the results of those experiments. From his well known ability both as a chemist and as a business man we have anticipated much practical information in regard to a subject on which at present our knowledge is vague and unsatisfactory. We have had in this country no such systematic and thorough tests of concentrated fertilizers as he proposed, and as we believe was conducted on his farm during the past five years. Few men who have the ability and the means of doing so, possess the necessary perseverance and patience. Most experimenters wish to reach their conclusions and write out their reports at the end of the first season or year. But after five years, Dr. Nichols gives only a general, not a detailed, statement of his results. We are sorry to see that ill health is assigned as a reason for not embodying, in this paper, as was intended, these results and conclusions in detail. Still enough is given to excite a general desire for a more detailed report, which the Dr. intimates may soon be given through another channel of communication. It may be proper to add that the farm on which these experiments were made was purchased in 1863, and consists of about eighty acres, which is described as follows, in the essay from which we copy:—

The farm at the time of purchase was well suited to a trial of this kind, as it had been in administrators' hands for several years, and was consequently neglected and unproductive. The soil is varied in its character, with upland and lowland, a fine peat bog occupying a basin between the hills. A portion is silicious, another portion loamy with a clay subsoil, and still another part is rich in organic debris, a forest having until within a few years densely covered it. Perhaps no tract of land in our county presents a greater variety of

soils, of differences of exposure, or affords the gradations from wet to dry, so desirable for fair experiment.

The product at the time of purchase consisted entirely of hay—about twelve tons being produced, of indifferent quality. The crops the present year upon lands embraced in the original purchase, have been 30 tons of good hay, 100 bushels of potatoes, 25 bushels of wheat, 150 bushels of corn, 75 bushels of turnips, and one and a half tons of grapes, besides other fruits in considerable quantities. There has been a steady increase in the amount of crops each year, notwithstanding a series of most unfavourable seasons. The number of acres in tillage is not far from twenty.

No stable or barnyard manures, excepting a few loads at the start, have been purchased during the five years, and the amount made upon the premises has been small; the stock consisting until within the past year of only three cows, a pig and one horse. At present the farm sustains eleven cows and heifers, three horses, a pig, and, during a part of the year, one yoke of oxen.

The fertilizing substances used (of which an accurate account has been kept, as also of crops, expenses of labor, &c.,) embrace the entire range of those agents which chemistry suggests, and those which have been brought to notice through the recommendation of farmers and experimenters—bones, ashes, lime, salt, the nitrates of potassa and soda, sulphate of ammonia, carbonate of ammonia, plaster, potash, fish pomace, shorts, muck, horn shavings, and lastly, the refuse of the Maine lobster factories. The methods of application and the conditions under which these have been employed, the combinations produced, present details which although extremely interesting, are too extensive to enter upon in this essay.

A definite end has been kept in view—that of securing practical facts from which safe general conclusions could be reached. Of course many experiments known to be empirical have been undertaken, and the results noted. For example, a half-acre of grass-land was divided into eighteen equal parts, and eighteen different substances is applied; the results were curious, but the experiment actually proved nothing, although a great difference was observable in the crops of grass. More than one-half of the experiments which

we find reported from year to year, are of this nature.

The substances affording the highest satisfaction have been those which furnish in largest quantity and at the lowest rates, the great fundamentals of plant-food—phosphoric acid, lime, potash, nitrogen. These have been obtained from bones, ashes, potashes, fish pomace, and nitrate of soda, principally. Bones have been largely dissolved in acid, and true phosphate and superphosphate of lime made upon the farm premises. Bones, ground and unground have been dissolved in the caustic lye of ashes, also in commercial potashes, and fertilizing substances of the most prompt and satisfactory character produced. I doubt if better crops of wheat and corn have ever been produced in the county, than have resulted from the use of these agents, upon weak lands.

I think it must be conceded that the results of these labors go to prove that exhausted soils can be brought and sustained in good tilth by concentrated chemical agents, at an expense considerably less than by the use of excrementitious manures at present market prices in the more densely populated parts of our country.

In conclusion, I will briefly present some facts regarding a special experiment upon a measured acre of hill land, dry, and exhausted from repeated croppings. It has been continued through five consecutive years.

In the autumn of 1863 it was ploughed, and in the succeeding spring dressed with 500 pounds of pure fine bone, sown broadcast, and planted with corn, a handful of home made superphosphate mixed with ground nitrate of soda, placed in each hill. One hundred and fifty-seven bushels of corn in the ear were taken from the field in the autumn of 1864.

After the corn was removed, the land was ploughed and again dressed with 500 pounds of compost made up of bone-dust, ashes, and refuse saltpetre, and sowed down to winter rye. The crop was 31 bushels of nice, plump grain.

The season of 1866 was exceedingly dry, and the ground became so parched, that the tender grass roots were greatly injured. The crop of hay was twenty-three hundred pounds.

The next season, a top-dressing of 500 pounds of compost made of bone gelatine and muck was given it in the spring, and a crop of hay cut weighing forty-three hundred

pounds. A heavy after-math was secured this season, which was not weighed.

The present season, 1868, the crop of hay reached two and a half tons, and the field appears to be in good condition for fine a product next year.

Here we have what may be considered a fair experiment, which proves that without the use of animal excrement, a worn-out field may be brought to produce very generous crops—crops which pay a good return for the expense incurred. It proves that chemical unorganized agents are capable not only of supplying nutriment to plants for a single year, but for sustaining crops for a series of years. The fertilizing elements supplied for the five years cost a little less thirty dollars. The experiment upon this field is not regarded as finished, and the crops will be noted until they are observed to falter.—*New Eng. Far.*

Hungarian Grass.

The trouble about Hungarian grass is, that it is not generally cut at the proper time. I have raised it several years and consider it the very best hay for horses. They will keep fat on it where on timothy they will grow poor. I sow half bushel per acre. It then makes fine hay and on good land should yield from 2 to 3 tons to the acre. Cut it when in the blow before any seed is formed; wilt in the swath the same as clover and make in the cock. The stalk is nearly solid and the hay very heavy, and if made in this way will be as green as grass and a horse will want little grain for ordinary farm work. I only feed grain in the spring when doing heavy ploughing. Give your horses all they will eat of it and they will fat with decent usage. But if allowed to turn yellow and form seed it is the same as any other grain and will, of course, injure a horse the same as if he were fed wheat in the bundle to excess. Any over-feed of grain is bad. It is better to rake it by hand, but on a good soil you will tumble up a big cock in a small space.

If cut at the time I mention, it will sometimes sprout up again and make good fall feed or a green crop to turn under. In one case I cut at the second time for seed, but it was short.—*Prairie Farmer.*

C. F. Dewey, of Berlin, Vt., made from fifty-seven buckets of sap seventy pounds of grained sugar and one gallon of maple honey.

Fruit and Vegetables for the Northern Markets.

The following information, furnished by the commission house of Young & Saunders, is precisely what is needed by a vast number of farmers whose system of agriculture must necessarily be greatly modified with their increasing facilities in reaching a market:

Onions, tomatoes, sweet and Irish potatoes, cucumbers, peas, string or snap beans, water and citron melons are the most desired, and we think all the above can be profitably shipped to this market. The first thing to be observed is in selecting your seed, getting those kinds which are most sturdy and most profitable. Secondly, to be particular in packing, giving good ventilation.

Onions and potatoes should be fully matured before shipment, for if they are not fully matured and packed dry, they will easily rot. Do not expose them long to the sun to dry them, but as they become dry pack them, for the sun will burn them.

Tomatoes should be pulled just on the turn to ripen. If they are pulled too green, they will rot before they will ripen, and if pulled ripe, they will rot before they reach their destination.

Cucumbers, peas and beans should be ripe, but not enough to be liable to turn yellow, they being saleable only while having a green color.

Citron melons should be shipped green, nearly matured.

Water melons should be ripe.

Onions, tomatoes, cucumbers, peas and beans should be shipped in bushel crates, a description of which we herewith submit.

Potatoes should be shipped in barrels well ventilated. Bore at least three holes, an inch in diameter, in each stave, and several in the bottom. Cover with stout cloth covers, and cooper the barrels tightly.

The yellow sweet potato is the only kind that is saleable in the New York market.—They are produced from the "Jersey Slip," which can be furnished to all who may want them. Cull the Irish and sweet potatoes well before shipment, and the culls can be shipped, marked "culls." They will bring half price. If shipped mixed in with large potatoes they will injure the sale of them. Every one will find it advantageous to ship good quality stuff.

Water melons and citron melons can be

shipped in three bushel crates, made the same as the bushel crate, but much stronger.

Virginia is the principal point of fruit and vegetable supply to this market, arriving here as follows: Peas about the 1st to the 10th of May, bringing \$6 to \$8 per barrel; beans, about 1st to 10th of June, bringing \$8 to \$10 per barrel; Irish potatoes about 10th to 15th of June, bringing \$7 to \$8 per barrel; tomatoes about July 1st, bringing \$5 to \$6 per bushel crate; cucumbers about July 10th, bringing \$10 to \$12 per barrel, (cucumbers should be all good size, about four to six inches long, cull out all the small ones); onions about July 10th, bringing \$7 to \$10 per barrel; water melons about the same time, bringing \$40 to \$60 a hundred; citron melons, same time, bringing \$5 to \$7 per barrel. We are of opinion that if the above articles could be received here a month ahead of the time given, of good quality and in good order, they would bring considerable advance over the prices here given.

DIMENSIONS OF BUSHEL CRATE.

Inside measurement—Length, 21 inches; depth, 16 inches; width, 8½ inches. No. 1, the top, and No. 2, the bottom, is a solid plank, about ¾ inch in thickness; No. 3, the ends and middle partition, is solid plank, about ¾ inch in thickness. The sides are slats about ½ inch thick, and 1½ inches wide, nailed on about 1 inch apart.

DIMENSIONS OF THREE BUSHEL CRATES.

Length, 30 inches; depth, 20½ inches; width, 12½ inches. The neater the crate is made the better the goods will show. Nail your crates securely. We would advise them to be strapped, as they are handled roughly in shipment.

Beans and peas should be picked dry, for if they are not perfectly dry when packed, the peas will scald, and the beans spot, making them unsaleable.

Always fill the crates well, packing the articles tightly, as they cannot shake about, and they will not rot as quick as they would if they could shake about.

For early vegetables sprout your seed in glass frames, where they will be protected from frost.

The *Utica Herald* says, if the statements of aggrieved farmers are to be believed, in no State is swindling in commercial fertilizers carried on to so great an extent as in N. York.

Keeping Fowls in Large Numbers.

The attempt to keep a large number of fowls together has usually met with poor success. Chickens especially are impatient of crowds, and are too apt to sicken and die in the absence of ample breathing room. A Mr. John S. Ives, of Salem, Mass., thinks there is no serious obstacle to success on a large scale with proper management, and gives the following suggestions:

For the accommodation of one hundred fowls he proposes one acre of grass land on which are five small shelter coops, as remote from each other as possible—assigning twenty fowls to each tenement. During the day they can run together, and with a little attention at the outset, they can be trained to seek their own domiciles with unvarying regularity. A wall or fence five feet high is deemed an ample enclosure if the Brahma variety is selected, as they are of a less roving character than most others, while they are regarded as superior to all others in the way of profit. In selecting the stock, the medium sized fowls should be preferred, as they mature early, and, with high feeding, will be ready for market in from ten to twelve weeks from the hatching. Fowls should never be wintered more than once, and never be allowed to moult. The eggs intended for hatching should be fresh laid and not allowed to get chilled by frost. The thick shelled eggs should be preferred, and not be placed under the hen until she has set one or two days and become accustomed to and satisfied with the place selected for the process of incubation. The location should be warm, dry and fully sheltered from air currents. They should be fed corn for about ten days, and thereafter scalded meal mixed with boiled and mashed potatoes.—When the chicks are first heard to chirp the hen should be confined to the nest for twenty-four hours and the place darkened. At the expiration of this time the hen should be removed to a coop and the chicks with the hen. At two days of age they should be fed with a mixture of bran and mashed potatoes for a couple of weeks, when they will be out of danger and may be allowed greater freedom of range. The conclusion of Mr. Ives is that fowls, in large numbers, will pay if properly managed, but if not cared for they become an expense to the owner and a nuisance about his premises.

The Swallows and the Phebe.

A few years ago, under the eaves of a barn, in Charlotte, Vermont, there had been built about twenty nests of the Barn Swallow. On their return to their old domicils the following year, in exercising the right of search, they found one of their nests partly demolished and in possession of a Phebe-bird. This the swallows appeared to consider an unwarrantable intrusion, and the pair which laid especial claim to the nest commenced a suit of ejectment. The fluttering and twittering of the swallows not having the desired effect, the owner of the barn took up their side of the dispute, and with a fish-pole endeavored to drive off the intruder, but without success.

About noon the swallows collected *en masse*, evidently with the intention of having a regular *palaver*, and hovered around the ridge of the barn on which the trespassing Phebe-bird had taken up her position. The swallows wheeled round and round, now mounting upwards, now coming down with a swoop, as though they intended to drive Phebe from her moorings. She stretched herself as it were on tip-toe, ready to repel the expected attack, while they kept up such a jabbering and twittering as to show that no common subject was under discussion. After nearly an hour had been spent in this feathery negotiation, the swallows dispersed, and Phebe retired to her pilloined homestead.

Soon after, the swallows were busily engaged, with mud from an adjoining spring, in building a partition-wall through the nest, allowing sufficient room for the intruder to attend to her own domestic concerns. They carried up the wall, restored the delapidated covering, and extended it in a direction opposite to its former one with so much elacrity that before evening several inches of the new wall were visible. This had been done without disturbing Madam Phebe, although the builders were in close contact with her ladyship's plumage, and probably splashed a little of the mud in her face. But there she sat, apparently regarding the inconvenience she had occasioned with sullen indifference.

The "right of search" had been bravely and pertinaciously insisted on, and although Phebe could show no "good papers," nor any other than a "robber's right" to the nest, yet rather than go to extremities in open war, the swallows allowed her to retain possession of a part, and thus the "boundary question" was

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settled, Whether she took any comfort in sitting where she was not welcome, or how the indulgent swallows estimated her want of good breeding, I am not informed.

The readers of this incident, may be reminded of one lesson, that however much we may consider ourselves injured by the trespasses of others, it is always "better to suffer wrong than to do wrong." And if young and grown up children would scrupulously observe this rule, what a marvellous change would be brought about in the family circle, and in the various relations of mankind.—From "Our Dumb Animals."

Gypsum.

This mineral, which, under the name of plaster, forms so large a part of the exports of Nova Scotia to this country for agricultural purposes, it is stated, has been discovered in Smythe county, Virginia. The Richmond *Enquirer*, directing the attention of the public to these deposits as one of the unfailing sources of wealth, if properly worked, says: "The main bed is situated in what is called the Cove, on Cove creek, a branch of the North Fork of Holston river, about 25 miles north of Wytheville, and 14 miles east of Saltville the present terminus of the branch of the Virginia and Tennessee Railroad. The route from thence to the Cove is up the Valley of the Holston, a most favorable line for a railroad—the grades would be about fifteen feet to the mile—descending with the export tonnage. The quality of this plaster is superior to any now known on this Continent. Such as have had a fair opportunity of testing it with the Nova Scotia, fix their relative value at fifty to one hundred per cent, in favor of the Virginia—that is to say, one ton of the Virginia is equal to one and a half to two of the Nova Scotia. In quantity it is enormous—it underlies hundreds of acres in a compact body. A well, or shaft, ten feet in diameter, has been sunk at one point. Within four feet from the surface, plaster was reached, and continued (with the exception of a few diminutive seams of clay) for the depth of five hundred and eighty-two feet, and operations suspended without reaching the bottom of the vein or deposit, so continuous was the plaster—no water came in—the plaster continuing of a uniform superior quality throughout.

Tea Culture in Tennessee.

What Young Hyson is Doing in the South.

The New York Tribune, in a late editorial article, commented upon the fact, published in this journal a few weeks since, that tea, equal in flavor to Young Hyson, had been successfully cultivated near this city. The editor of the Tribune demonstrated the vast influence which the success of the tea culture in the South would have upon the development of our Southern internal resources, and urged that all the information connected with its culture should be laid before the public. That the interest, which has succeeded the announcement of the successful cultivation of this important article of commerce, may be enhanced, and to the end that some practical benefit to the industrial interests of the country may be derived from a more general discussion of the subject, we visited the farm of Captain James Campbell, some ten miles from Knoxville, where the tea plant has been in successful cultivation for ten years.

We learned that the plants had been distributed through the Agricultural Department in Washington, about the year 1858. Hon. Horace Maynard, member of Congress for this district, received a few of the plants, and mailed them to Capt. Campbell. This gentleman has fully tested their adaptedness to our genial climate, and has succeeded beyond his most sanguine expectations.

The plant is a deep evergreen shrub, and attains, at its full development, about five feet in height. It is hardy and needs no protection from frosts. It bears an abundant crop, with beautiful fragrant flowers in October. The following season it matures a seed, somewhat resembling the seed of our native hazel, and which grows as readily.

Capt. Campbell informs us that he has cultivated merely a small number of the plants, or, as he expressed it, "just enough to keep the family in tea." At his suggestion we drank a cup of the tea, and confess our surprise at its fragrance. In our judgment, the tea raised by Capt. Campbell is fully equal to Young Hyson.

The vigor and hardiness of the tea plant, and its adaptedness to the climate of East Tennessee, have been fully tested, with a perfectly satisfactory result.—*Knoxville Press and Herald.*

Manuring Market Gardens.

All successful market gardeners agree that it is hopeless to grow good crops, without a yearly application of manure in large quantities. Henderson's Gardening says:

"It is a grave blunder to attempt to grow vegetable crops without the use of manures of the various kinds. I never yet saw soils of any kind that had borne a crop of vegetables that would produce as good a crop the next season without the use of manure, no matter how rich the soil may be thought to be. An illustration of this came under my observation last season. One of my neighbors, a market gardener of twenty years' experience, and whose grounds have always been a perfect model of productiveness, had it in prospect to run a sixty foot street through his grounds; thinking his land sufficiently rich to carry through a crop of cabbages without manure, he thought it useless to waste money by using guano on that portion on which the street was to be, but on each side sowed guano at the rate of twelve hundred pounds per acre, and planted the whole with early cabbages. The effect was the most marked I ever saw; that portion on which the guano had been used sold off readily at twelve dollars per hundred, or about \$1400 per acre, both price and crop being more than an average; but the portion from which the guano had been withheld hardly averaged three dollars per hundred. The street occupied fully an acre of ground, so that my friend actually lost over \$1000 in crop, by withholding \$60 for manure. Another neighbor with a lease only one year to run, also unwisely concluded that it would be foolish to waste manure on his last crop, and so planted and sowed all without; the result was, as his experience should have taught him, a crop of inferior quality in every article grown, and loss on his eight acres of probably \$2000 for that season."

Horses for Farm Work.

Among the different breeds of horses now propagated in this country, every class of business can select that which is best calculated to perform the services required by its owner. The gentleman of leisure and the Medical Profession require a horse, not too large, but of good bottom, wind and speed. The farmer requires a horse of greater weight with all the qualities above named, except speed—extra speed. If a farmer's horse can

trot six miles an hour to a light wagon, without extra effort, he is fast enough.

At heavy draft, weight adds strength without an extra effort of the muscles—so that the heavy horse before a plough moves on with ease by virtue of his own weight against the collar; while the lighter horse must strain every nerve and muscle to do the same work. This excites, irritates, and worries him and he is not so attentive to the word or line. This over exertion soon begins to tell upon him and his value is depreciated. The same remarks will apply in drawing a loaded wagon up grade.

It must then be the interest of farmers in breeding horses for their own use, to select such animals to breed from as will produce the desired result. Here the Percheron, more familiarly known as Norman, is a candidate for the farmer's favor, and deserves to be better known and more fully appreciated. The Percheron horse no doubt, at this day, stands first among the draft breeds of the world. The interest in this breed has greatly increased of late among farmers, and they are the best judges of their own wants.

The Conestoga horse has weight, but is very deficient in action—sluggish in his movements, and not celebrated for bottom or endurance. This breed of horses is principally confined to one locality, (Lancaster Co., Pa.)

At the prices for which good horses sell, a fine opportunity is offered to large farmers to raise horses of popular breeds for sale. Even small farmers raise one or two a year with good profit.—*Stock Journal*.

Hogs Looking Up.—Velocipedes are not to be all the sensation at some of the agricultural fairs next fall. St. Louis goes a squeal louder than Cincinnati; the pork packers and provision dealers of that city have subscribed \$1550, to be awarded as premiums for hogs at the fair of the St. Louis Agricultural and Mechanical Association, to be held next October. This sum is in addition to the regular prizes, and will be divided as follows: best boar and sow, of any age or breed, with five pigs of the same breed, not to be over six months old: first premium, \$700; second premium, \$250; best boar, \$50; best sow, \$150; best ten pigs under six months old, \$200; best fattened and large hog, \$100. These are the largest premiums ever offered in this country for hogs.—*Ex.*

Periods of Gestation.

The following table and remarks are extracted from an article in Blain's Encyclopedia:

Period of Gestation in Domestic Animals.

Shortest period. Mean period. Longest period.

	Days.	Days.	Days.
Mare.....	322	347	419
Cow.....	240	283	321
Ewe.....	146	154	161
Sow.....	109	116	143
Goat.....	150	156	163
Blitch.....	65	66	68
Cat.....	48	60	66
Rabbit.....	29	28	35
Turkey.....	24	26	30
Hen.....	19	21	24
Duck.....	28	30	32
Goose.....	27	30	33
Pigeon.....	16	18	20

According to the observations of M. Teis-seir, of Paris, in 582 mares, * * * the shortest period was 287 days, and the longest 419, making the extraordinary difference of 132 days, and of 80 days beyond the usual term of eleven months. The cow usually brings forth in about nine months, and the sheep in five. Swine usually farrow between the 120th and 140th day, being liable to variations influenced apparently by their size and by their particular breeds. The true causes which abridge or prolong more or less the period of gestation in the females of quadrupeds, and of the incubation of birds, are yet unknown to us.

In most cases, therefore, between nine and ten months may be assumed as the usual period, though with a bull calf the cow has generally been observed to go about 41 weeks, and a few days less with a female. Any calf produced at an earlier period than 260 days must be considered decidedly premature, and any period of gestation exceeding 300 days must also be considered irregular; but in this latter case the health of the produce is not affected.—*Rural New Yorker.*

The English House Sparrow.

The English house sparrow is a hardy, greedy little bird, but with a spiritual appetite withal. He builds his nest under the tiles, in holes in walls, in trees that grow in streets, gardens and yards, in ivy, Virginia creepers, and other plants that climb up walls. The lady bird nurses, as a rule, three broods of five young birds each season. These sparrows increase rapidly. A colony of a dozen

couples will soon fill a city. They will eat full grown, tough, shaggy caterpillars when hard pressed, as a lion will eat a gross, vulgar man when hungry, if no suckling of a kid falls in his way. They are, however, delicate in their tastes. They prefer caterpillar's eggs or the little tenderling just bursting out of the egg, a soft, sweet, unctuous nibful which makes them chirrup with genuine birdie gratitude. In Jersey City, N. J., a few of these sparrows were colonized about three years ago. Previous to their arrival the trees were full of slimy, creeping, clinging, shaggy things—the terror of ladies, and the disgust of men. These creatures made the trees leafless. They fell upon the dresses of ladies, and on the necks of men, and into the mouths of children as they rode past. The ladies' dresses were stained and smeared by mashed grubs, so that they feared to venture into the street, and sometimes dared not go to church. Their very bonnets, fluttering all over with flowers and laces, are the nestling places for creeping things. All is now changed. The sparrows have done it all. The trees are all life and beauty. Leaves are no longer perforated; clusters of slimy or hairy abominations no longer hang in ropes from the branches. Gentlemen wear new hats without fear. Ladies wear silks and satins with pleasant confidence, and trip along smilingly, thanks to the feathery strangers.—*Western Rural.*

CRUELTY TO ANIMALS.—Nothing so much marks the true progress of civilization as the increasing attention given to the question of humanity to dumb beasts. In our own State much has been done towards relieving them from the cruelties and unnecessary suffering imposed on them by unfeeling wretches, or the barbaric ignorance of a past age.

In other States, similar signs of progress exist. The Massachusetts Society for the Prevention of Cruelty to Animals are looking after the butchers. They give notice in the last issue of their publication, "Our Dumb Animals," that after the 30th of March they intend to enforce the law against the starvation and bleeding of veal calves before being slaughtered. They have been informed that, by certain butchers, "the calves are starved from Sunday night until the next Sunday night, besides being bled every twenty-four hours, to stop the bleating and whiten the veal."—*Weekly Press.*

Preservation of Meat.

T. S. Gold, Secretary of Connecticut Board of Agriculture, makes the following report on the subject of meat preserved fresh by the method of Professor Gamgee:

Prof. Gamgee presented a carcass of mutton at the meeting of the Connecticut Board of Agriculture, at Bridgeport, January 11th. The Professor assured us that this specimen was killed at Chicago two months previously, and preserved by his process.

It lay two days at Bridgeport, in a very warm place. One half was then cooked by our host of the Sterling Hotel, and pronounced by him and his guests to be first rate; not a particle of any peculiar odor or taint was perceptible.

The other half was taken to New Haven, and under Prof. Johnson's care was "kept in a very hot room, and got dried and tried somewhat," for about one week. One quarter was then hung in my laundry, hot and damp and dry, for another week, then cooked and eaten by an assembly of farmers at Dr. Knight's, in Salisbury. The mutton was still found to be in excellent condition; the exterior fat a little approaching acidity from having been so nearly cooked twice, but otherwise perfectly sound, and peculiarly ripe and tender.

The tests to which it was exposed were much more severe than any meat would encounter in ordinary transport or use. Alternate freezing and thawing is about the hardest test to which meat can be exposed, and this came out all right.

Clover and Timothy.

A. Hadley, in a communication to the *Northwestern Farmer*, gives, what he regards three important reasons why clover should always be grown with Timothy. First, the clover becoming tap-rooted penetrates deeply, stands drouth, mellows the soil, and the Timothy grows much stronger and holds up the clover. Secondly, if sown for pasturage, the Timothy almost universally prevents the clover from swelling cattle. Thirdly, hay is too binding, especially for cattle, and clover too washy, (succulent), hence both together are better than either alone. To these, the *Country Gentleman* adds under the head of the first that where grass comes in a rotation, it is of

the utmost importance on a clay soil, that at least a part of this grass crop be clover. It will serve to mellow and loosen the heavy soil in a remarkable degree, so that when turned over with a plough, it will not only be rich, but loose and friable. If, on the other hand, Timothy alone is sown, (which some do because the hay sells better), the sod will turn over heavy and clammy, and be unfit for any crop which is to follow. The same correspondent says that he is partial to rye for calf or sheep pasture, which he occasionally sows in the summer or autumn, after a crop of corn; and then, after pastured it is turned under for a spring crop—corn if the soil be strong enough—or it may be allowed to go to harvest.

Legal Zoology.

The following cutting is from the Police Report in the "Times," (London,) of December 9th, 1869:—

"A gentleman applied to Mr Vaughan to ascertain if there were any means of punishing a street-hawker of birds, under the act for the Prevention of Cruelty to Animals or any other act. Having noticed that the bird-vendor in question was in the habit of illustrating the tameness of his canaries, &c., by exhibiting them openly on his hand, without any apprehension of their flying away, the applicant had the curiosity to purchase one. He then discovered that the pinions under the wing had been snapped asunder and completely drawn away so that the birds were unable to fly at all. It was obvious that this process of "taming" the birds was attended with great cruelty, and the man who lived in Shoreditch, and constantly visited the Strand, ought, if possible, to be summoned. Mr Vaughan, after consulting the Statutes, said that a bird was not an animal within the meaning of the Act for the Prevention of Cruelty to Animals even if the specific act of cruelty alleged in this case could be proved. The applicant remarked that it was illegal to encourage cock-fighting. Mr. Vaughan, said that there was a special enactment with regard to that, but it did not apply to an offence of this kind."

Another illustration of the familiar saying about driving a stage-coach through an Act of Parliament. A man might with impunity roast an ostrich alive under the very nose of authority.—*Hardwicke's Science Gossip*, London, January, 1869.

Selection of Seed Corn.

The great basis of the important discoveries of the naturalist Darwin are summed up in the term "Natural Selection." The idea is that the external circumstances of nature are in a continual state of change, and that plants and animals have been endowed with a principle of slow but constant variation, somewhat related to the change in their external surroundings. Among these variations are some which are better suited to the changed condition of things than others. These get more aid and support than others from changed nature, become stronger, and then crowd out and utterly destroy those which are less suited to the new sphere. This principle is called *Natural Selection*. There are, therefore, in the vegetable and animal kingdoms two distinct principles—the conservative and the radical—the one seeking to maintain things just as they are, the other endeavoring to modify and improve them; but neither can do much only as external circumstances foster and favor them. These principles of construction and destruction are about evenly balanced, and neither can go very far away before it is brought back by the other; but change goes on just in proportion as any adventitious strength is afforded it.

The value of this principle to us is in its application to selection for seed purposes. If man had never intervened, there would probably be yet but one kind of Indian corn. Varieties would shoot out; but these, being relatively weaker in proportion to the degree of divergence from the main type, would soon be killed out by the rest. But man notes the variation as something which would be useful to him, and *selects it*, giving it his special protection from the pressure of the rest; and the *conservative* power becomes gradually consolidated by his assistance.

This then should be the method of man in seed saving. If corn, with thin cobs and large grain, be an object, select continually from those which have these characters; and in whatever point we notice a tendency to vary, or to approach our wishes in the line of variation, a selection of those points, followed up for a year or two, will produce marked varieties.

An absolutely new vegetable has just been given to the world by a French philosopher, M. Carriere. He conceived the idea that a kind of radish, growing wild, more or less, all

over Europe and America, the *raphanus raphanistrum*, could be as much improved as the common radish has been from its progenitor, an allied species. The root of the natural weed is very hard and wiry, but he selected one which seemed a trifle softer than the rest. From this he sowed seed, and kept selecting, year after year, the softest, until now he has round, long, red, white, and all sorts of roots, as in the common radish. The flavor of the root is peculiar, and distinct from the common radish, and is described as being something between a turnip and the radish.

These experiments show how much may be done by man to aid nature in her principle of variation against the conservative element; and as the season of corn planting is at hand, it will be very seasonably to apply the knowledge to practice. He who shall raise a real first-rate variety may make his fortune, for the public soon tire of one hobby, and want new ones. The potato is king, just now, but corn may turn up by and by.—*Weekly Press*.

The Profits of Tobacco Culture.

An Amelia county (Va.) correspondent of the *Richmond Southern Planter and Farmer* writes: "The cultivation of tobacco, to which this county is well adapted, is generally supposed elsewhere to be exhaustive to the soil. It is known here not to be directly so, in any special degree; and with the most successful farmers, it is the chief basis of an improved system of agriculture. It cannot be grown without better tillage than is ever thought of for other crops; and the profit of that tillage is immediate and large. A neighbor of mine, living upon fifty acres of land, sold his crop of tobacco last year for \$1200. Another, who cultivated forty acres of tobacco upon highly improved land, sold the product for \$6400. After charging this *one crop* with his whole agricultural cost for the year, it yet left a net profit of \$3400. Another, who conducted his operations with four laborers, occasionally hiring an extra hand or two, sold his tobacco crop for \$1400, and having deviated from the routine cultivation of corn, upon exhausted land, *only* by using a ton of guano (costing \$90) upon his field of twenty-five acres, made from it 650 bushels of corn."

The *Prairie Farmer* says a Kentucky woman feels more pride in having the first green peas than the first spring bonnet.

The American Farmer.

Baltimore, June 1, 1869.

TERMS OF THE AMERICAN FARMER.

SUBSCRIPTION TWO DOLLARS PER ANNUM.

RATES OF ADVERTISING:

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One Square.....	\$2.00	\$5.00	\$8.50	\$15.00
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One Page.....	25.00	60.00	100.00	200.00

PUBLISHED BY

WORTHINGTON & LEWIS.

New Office, 4 South Street,

Near Baltimore Street,

BALTIMORE.

Close of Volume.—We close with this number the third volume of our current series. With it will be found a full Index, prepared with care, of the contents of the volume.—We are sure that our readers will find it to their interest to have their numbers bound. The large amount of useful matter contained in them is hardly realized until it is gathered in a volume, and we think it will be found to be mainly of a quality that will keep.

Will our friends remember that most of their subscriptions are now renewable, and that each one of them may, if he chooses, do us the great good of sending with his own a new subscription.

Our courteous and able contemporary, *The Journal of Agriculture*, published weekly at St. Louis, takes off his hat to *The Old Farmer* after this manner:

"THE OLDEST AGRICULTURAL PAPER IN THE UNITED STATES.—The *American Farmer*, published at Baltimore, claims to be the oldest agricultural paper in America, the first number having been issued April 2, 1819. This is an interesting fact, for we have no doubt of the correctness of the claim, and we, with head uncovered, most devoutly make obeisance to our revered forerunner. And we do this with a hearty good will, not merely because we respect gray hairs (for these sometimes take root on the craniums of dunces), but because we regard the *American Farmer*

as one of our most substantial monthlies; one which we are always glad to see on our table and in whose teachings we place confidence.

May this good old pioneer go on its way joyfully for many generations, teaching how to plough, how and what to plant, and how to reap!"

We are grateful for the very many friendly notices of our co-workers of the agricultural and of the weekly country Press. If the limits of our journal allowed, we should take great pleasure in frequently presenting to our readers the merits of the many admirable journals on our exchange list.

Minding One's Business.—The Editor of *Farmer's Gazette* says, that a Northern advertiser writes to inquire of him, what are his politics and his religion. His answer to the latter part of the inquiry is, that his religion is to mind his own business. This is a short summary, and may not be generally accepted in regions more progressed, and of a higher civilization than that of Richmond; but who shall say that to believe in God, to love and fear Him, to honor His holy name and word, to live in charity with one's neighbors and to provide for those of one's household, is not good religion? And who shall say that this is not the very business that each man should mind? On the contrary, as the wise man has it, the eyes of the Fool are in the ends of the earth, meaning as we interpret it, that he who is be-fooled in the matter of religion—thinking himself religious when he is not—is continually minding, and meddling with, the business of other men.

A Winter Grass for the South.—A correspondent at Shreveport, La., says: We are in great need, in this part of the South, of a winter grass, that does not require reseed, and seeks information on the subject. We should be glad to hear from any of our readers in the South, who have practical knowledge of such a grass. We suggest the Orchard Grass—*Dactylis Glomerata*—as possibly, answering the purpose. It stands well the hottest and driest seasons in this latitude, and is sufficiently hardy as to cold. It makes a strong turf, and never needs reseed. Lucerne, about which our friend inquires, too, is not available as a pasture grass at all, but is prized for its quality of early spring growth, for soiling purposes.

The American Farmer as an Advertising Medium.—One of our advertisers in New Jersey (a Nurseryman) writes us, "I have a good many orders through your monthly; I would not like to be without it."

We are constantly receiving such acknowledgments from all sections of the country, not only by friendly expressions, but very frequently by the more decided evidence of the worth of the "Farmer," viz: repeated renewals of advertisements.

While returning our thanks to advertisers for their patronage, may we not ask of our readers the favor of stating, when they order goods of our advertisers, *that they saw the advertisements in the American Farmer?* This would benefit, not only the "Farmer," but, in a great measure, the advertiser, by enabling him to make a judicious selection of an advertising medium.

A New Fertilizer.—The *Persicator* is a new fertilizer, which is described in our advertising pages. We received the manufacturers' circular too late to give it the careful examination which it claims, and can only say, it is manufactured by the well known old firm of Wm. Crichton & Son, by a formula prepared by our correspondent, Dr. David Stewart.

No chemist in the country, we presume, has given more careful and painstaking attention to the applications of chemistry to agriculture than Dr. Stewart, and *prima facie*, we should expect the best results from a fertilizer that has his special endorsement.

Our Dumb Animals.—We receive and read with interest the monthly publication under this title, issued by the Massachusetts Society for the Prevention of Cruelty to Animals. It exhibits a spirit of true humanity, speaking for those who cannot speak for themselves, and laboring to protect the oppressed against the brutish tyranny of the oppressor. As if distrustful of their ability in humanizing influences, our Boston friends have got the services of an Angell as President of their Association; a Bullock is first Vice-President, and a Fay, Secretary.

Col. Capron, Commissioner of Agriculture, has our thanks for three varieties of Melon Seeds from Asia Minor, received from the Governor General of Smyrna—also two papers of Ionian Melon.

The Rochester *American Farmer* wants to get up a laugh, and not knowing exactly what to laugh at, very dutifully asks us to help him out of his bother. Here is what he says:

WHERE DOES THE LAUGH COME IN?—*The American Farmer*, Baltimore, publishes an extract from a communication in our paper giving an account of some operations in the potato line, made by Mr. Breeze, of Vermont, and appends to it the following:

"Our young namesake does not seem to suspect this to be an advertisement, but puts it, free of course, among his reading matter. He has a zeal for the elevation and dignification of agriculture!"

Will our critical friend please explain how it happens that this "advertisement," as he calls it, finds a place in his paper? If it was wrong in us to publish it in Rochester, is it less so for him in Baltimore? Where does the laugh come in? How is Cresylic Soap in Baltimore?

The laugh comes in right here, young Rochester. How dull you are! Now laugh, if there is any fun in you.

We will give him, too, the explanation he asks for. That "advertisement," went into his columns as good and pleasant reading, seriously giving information of a great good coming, in the shape of another potato. It went into our columns with the announcement, Here's a Humbug! "There be differences, mark you."

"Cresylic Soap in Baltimore?" Why, Cresylic Soap is a good thing, even in a clean city like Baltimore.

But it can be sent with dispatch by express to Rochester and elsewhere, and is greatly recommended to people who handle humbugs, for washing their hands.

We use it on flies and other little things that want to annoy us in warm weather.

Prindle's Agricultural Steamer.—In our advertising columns will be seen an advertisement of Mr. Edmund Wolf, No. 31 Light street, Baltimore, who offers for sale Prindle's Agricultural Steamer, for use of Fruit Growers, Stock Feeders, &c. The proprietors of the Steamer offer a premium of \$50 for the first, \$30 for the second and \$20 for the third best new and original Essay on "Cooked Food for Stock." For particulars see advertisement.

Draining.

A subscriber at Macón, Georgia, asks for information on Drainage, "The cost per acre for tile drains, the depth and distance they should be laid, and what substitute can be used for tile."

If we were willing to go to the expense of draining thoroughly to a considerable extent, we should get the services of Mr. Hansen, whose communication appears on another page, or some one else familiar practically with the subject, to supervise it. The expense is heavy and should be done in the best manner. The cost of the tile alone is estimated at from \$25 to \$30 per acre where tile is convenient, and varies, of course, with the requirement of the land. Clays of close texture requiring closer drains than soils of more porous quality.

Where stone is abundant on the land, it may be substituted for tile, but if it must be hauled even a short distance and several times handled, it is still costly draining, and it is much more difficult to make with it good drains that will keep open, than with tile.

Wood may be substituted with much economy of first cost, and, if well laid down and covered, will make good drains and last a long time. We have made drains with seasoned chestnut rails that were very good at the end of nine years, and how much longer we do not know. Two were laid down side by side, close enough for a third to lie well on top. Round poles may be used in the same way. An opening of three to four inches diameter is enough for ordinary drainage.

In our Southern States, where land is generally cheap, we do not doubt that it would be good economy to use wood for this purpose.

We should not make the drains deeper than 2½ feet, and should regulate the distance by the degree of closeness and wetness of the soil; two rods distance being near enough, perhaps, under any circumstances.

The drains, where the use of the plough may be practicable, may be opened in a measure by the plough, and finished with the spade to the depth required. Then lay the wood or stone, and cover with brush, sods or any thing that will keep the earth out of the drains, and cover in.

These suggestions, as we have said, are applicable to lands of moderate price, and where it is desirable to economise the first cost. We know that very effective draining may be so done.

Likenesses.—Our friend of the Farmer's Gazette, Richmond, makes good fun of us, on the little matter of "Likenesses" in a late number. He serves us right. We are sorry we said anything about it, and give it up. Go your ways, good Gazette, and may your ways be—*al-ways*. Keep your jacket on, and for your breeches, don't mention them.

But one thing, neighbor! that bright yellow of your advertising sheet; that's the vest, we suppose. Now you can change that, and do, please. Green and yellow, you know. Think of that poor young lady on that monument, where she has been now three hundred years smiling at grief, with her "green and yellow melancholy." The combination has got in it a settled sadness worse than that of mourning clothes.

We are serious now, as becomes the subject, and will say to our friends of less experience in such matters, that they make a mistake in putting their advertisements on cheaper paper than that of the body of their journals. Advertisers like to see their wares presented in the most becoming manner, and know that what they say is read with more satisfaction from good paper and good printing. Cheapness is, we know, a pressing argument, but poor economy.

We cannot copy the Gazette's fun. We have helped one person to a laugh, and cannot afford to be further liberal in this way at our own cost. It is enough to say that, considering the green and yellow, our friend has been jolly under circumstances that Mr. Mark Tapley might have envied.

The Agricultural Society of Alleghany Co.—The organization of this Society is now complete, and it is ready to start upon a career of usefulness. The following gentlemen constitute the officers:

President—J. P. Roman.

Vice-Presidents—G. W. Washington, F. S. Whiting, John Pierce, John A. Humbird, of W. Va.; Peter Myers, Judge Hartley, Peter Livengood, of Penn.; John M. Buchanan, A. B. McCarty, Israel Thompson, Curtin M. Graham, Jas. Willson, M. A. Frost, J. S. Combs, Wm. Logsdon, Chris. Kelley and C. Beachly, of Alleghany county.

Recording Secretary—Wm. H. Lowdermilk.
Treasurer—George Henderson.

Corresponding Secretary—C. C. Shriver.

Notices.

Parsons on the Rose—a treatise on the Propagation, Culture and History of the Rose, by Samuel Parsons. New and revised edition; illustrated. New York: Orange Judd & Co., 245 Broadway. Henry Taylor, Sun Building, Baltimore.

New Agricultural Journals.—*The Chataugua Farmer*, is a new and promising agricultural weekly published at Dunkirk, N. Y., by J. M. Lake, at \$1 per annum.

The Minnesota Monthly—A *Northwestern Magazine*.—The official organ and Advocate of the Patrons of Husbandry. St. Paul, Minnesota.

The Reconstructed Farmer, a monthly magazine devoted to the Farm, Garden and Household. Published at Tarboro, N. C. Our Southern friends are showing great enterprise in the work of agricultural reconstruction, and this, with several other valuable new journals heretofore mentioned, is the consequence of it. The "Reconstructed Farmer" exhibits much ability and practical good sense.

Monthly Report of the Department of Agriculture.—We are in receipt of this report for March and April.

Smithsonian Miscellaneous Collections.—Land and Fresh Water Shells of North America. Part I. *Pulmonata Geophila*, by W. G. Binney and T. Bland. Washington: Smithsonian Institution, Feb., 1869. This is a publication of great scientific interest, of more than three hundred pages.

The American Journal of Science and Arts, conducted by Prof's B. Silliman and James D. Dana, with other leading men of science of Cambridge and New Haven. The May issue is No. 141 of a publication so well known as the leading scientific journal of the country.

New American Farm Book.—Originally by R. L. Allen, author of "Diseases of Domestic Animals," &c. Revised and enlarged by Lewis F. Allen, author of "American Cattle," editor of the "American Short-Horn Herd-Book," &c. New York: Orange Judd & Co., 245 Broadway. For sale by Henry Taylor, Sun Building, Baltimore.

The New Eclectic Magazine.—This able and excellent literary magazine for June is received. It contains a handsome steel plate portrait of Geo. Peabody, the great philanthropist, with biographical sketch, both prepared expressly for this magazine. An instalment of a delightful idyllic romance by Berthold Auerbach, the prince of living German novelists, whose works are now creating such a sensation in this country. A reply to Prof. Huxley's lecture on the Physical Basis of Life, which latterly has so engrossed the attention of the scientific world. A very pleasing article on the Woman Question, reprinted from the Southern Review. A Lecture by Prof. Gaillard, of Kentucky, on the medical lessons of the late war, beside various other contributions on interesting subjects: Book Reviews, Haversack, The Green Table, etc. Terms, \$4.00 per annum, in advance. Turnbull & Murdoch, Baltimore.

Farm Implements and Farm Machinery, and the Principles of their Construction and Use; with simple and practical explanations of the Laws of Motion and Force, as applied on the Farm. With 287 Illustrations. By John J. Thomas. New York: O. Judd & Co. 303 pages, \$1.50. Henry Taylor, Sun Building.

About twenty years ago Mr. Thomas wrote an essay upon the subject embraced in this volume, for the Transactions of the agricultural society of New York. In 1854 he worked the essay into a volume, which was published by the Harpers. The whole work has now been revised by the author, and much enlarged by the addition of new matter to embrace the latest improvements. Though a farmer may fail to be an expert chemist, botanist, geologist or physiologist, he ought not to be ignorant of the principles on which farm implements are constructed, or of the laws of motion and force on which the machinery operates that he uses every day. Mr. Thomas understands these principles thoroughly, and he has a very happy and familiar way of explaining them to others.

American Newspaper Directory.—G. P. Rowell & Co., New York. An octavo volume of 358 pages. Price \$5.00. A valuable, complete and reliable publication, presenting, in an intelligible and convenient shape, an amount of information touching the newspaper press of the country not to be had elsewhere.

Demores's Illustrated Monthly and Madame Demores's Mirror of Fashion, for June, is already received, and is as bright and elegant as usual. It claims to be the Model Parlor Magazine, and we believe the ladies, who ought to know best, acknowledge it to be so. It represents the UTILITY and BEAUTY of *Fashion*, rather than its FRIVOLITY and EXTRAVAGANCE.

The Horse, in the Stable and Field: his Management in Health and Disease. By J. H. Walsh, F. R. C. S.; with copious notes and additions, by Robert McClure, M. D., V. S. Porter & Coates, 823 Chestnut street, Philadelphia, Pa., publishers.

This is an English work of acknowledged authority. It has been thoroughly revised and adapted to the wants of the American farmer and amateur. Dr. McClure, the American editor, is the well known author of "The Diseases of the American Stable, Field and Farm Yard." The work contains 540 pages, and is illustrated by over 80 engravings, among them are the likenesses of many celebrated American horses. It is quite largely devoted to racing and trotting stock, but the chapters, in regard to horse management in health and disease, are full and complete, giving sound instruction upon all the points that every horse owner will occasionally need to refer to. Every man who owns a horse should also own this book. It will be worth many times its cost to him every year. The publishers have issued it in a very substantial and creditable style.

Fourth Annual Report of the American Dairyman's Association, with accompanying Papers, &c., for 1868; with the Annual Report of the Ohio Dairymen's Association. Gardner B. Weeks, Secretary, Syracuse, N. Y. 133 pages.

This report will be found, we think, to be full of information of interest to dairymen. It contains a list of the cheese and butter factories in the United States and Canada,—near one thousand. The addresses and discussions are given in full. Hon. Horatio Seymour, is president of the association.

Address on Agricultural Education, by Andrew D. White, Pres't of Cornell University.

Carolina Farmer.—We correct with pleasure as requested, by our contemporary, the Carolina Farmer, the mistake we made in locating it at Raleigh, instead of Wilmington, N. C.

To Farm with Profit.

This is an interesting topic, and a favorite theme with writers who would catch the eye of readers. Surely to make farming profitable is the prime interest of the thousands who dig and toil, and who get others to dig and toil for them. We find none of these writers, however, who, to our thinking, go to the root of the matter. One recommends this, another that, and very good suggestions are given, and very wise precepts taught, and very useful practices set forth, but what avail one and all, if brains be not at the bottom. To make farming profitable, *set the right man about it*. There is no difference between this business and merchandise, or law, or whatever else; the man who can make either profitable, apart from accidents, is he who is educated and trained to his work through years of thought and experience, and has, besides, the mind and the personal qualities that adapt him to it. Just in proportion as the farmer has these will he, not find, but make his business profitable. The blessing of God must be added indeed; but it is the way of Providence, be it borne in mind, to help those who help themselves; that is, who help themselves in the way of His ordering, doing the work to which they are called, and in the manner that faithful servants are wont to work.

This implies adaptation, or turn of mind, as we familiarly express it, for business; instruction in its principles; knowledge of its practices, and that training in its several departments which in course of time becomes experience. Involved with these, of necessity, are mental culture and discipline in the direction of the line of business followed.

It is one of the follies and infatuations of men that any fool can farm. They go at it, therefore, continually and with perfect confidence in themselves, without any of that previous and special training that even a book-black should have to gain for himself success and credit in his art. What wonder is it then, that we hear people constantly decrying the unprofitableness of farming and devising short methods to success in a business that they fail to make profitable because they really know nothing about it.

We find, as we have said, in the discussion of the topic, suggestions very good and useful however inadequate to the matter in hand and it was our design rather to speak of and comment on these. At the late annual meet-

ing of the Massachusetts Agricultural Society, in address, we learn from the proceedings, was delivered on "How to make farming profitable," and that it was a considerable one may be inferred from the remark of the reporter of the proceedings that it "occupied the remaining portion of the afternoon."

One of the suggestions of Mr. Clift, the speaker, was that an important defect in the general practice of our farming was "lack of capital." "More money should be invested in labor. Farm managers were also needed, and he thought, one good would result from the agricultural colleges springing up, would be in providing a class of farm managers. There were a great many wealthy men, men who were engaged in commerce or manufactures, who would be glad to invest the surplus capital in lands, if they could employ good managers; so that the young men who had been educated at these colleges, if poor, would find remunerative employment from this source, and thus benefit result to both parties.

In regard to what might be done, by a judicious outlay of capital, he referred to the results obtained by Dr. Hexamer, who was a successful market-gardener, his sales of vegetables, &c., on sixty acres, amounting last season to \$15,000. He said what the mass of farmers wanted was a system of regular rotation in crops; such as they have in some parts of Pennsylvania and New Jersey. For a five years' course it would be corn, oats, wheat, and the fourth year seed with clover, and other grass. The yield of wheat was about twenty-five bushels per acre. He spoke of clover as the great renovator of the soil, and said that clover fed to animals was worth \$9 per ton in their manure. We wanted improved machinery and better buildings, and he thought it did not pay to let stock get their living about stack yards this cold weather, as he saw in several instances in the State on his way to this convention."

Now here, as we have said, are several useful suggestions, which were, no doubt, well elaborated by the intelligent speaker in the course of his address. As to the matter of active capital in business, nothing is more certain than that farmers too commonly stint themselves, and that, in proportion to the land worked, there is too little labor, too little manure, and not enough of the tools and implements needed for this work. Yet, on the other hand, who is not familiar with the case

of some spirited young man, who has not withheld his hand in any of these things, and by this very free spending has come quick to ruin? He did not *know how* to spend, or to use the advantages which his spending gave him.

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This rotation puts corn upon an old sod inverted. Nothing could better insure a good crop, without regard to season almost, if well managed otherwise. The crop of oats following is sometimes thought of little value, but pays well generally for the work, and the ploughing for it makes part of the preparation for the wheat, while the stubble admits of early ploughing after harvest. The year's crop of manure gathered from all quarters goes on after this ploughing, and is helped out with others that may be needful. Early seeding is provided for and there is the best possible preparation of the ground for the seed of wheat and for the clover that is to come after. Thus the culminating crop in the way of exhaustion is met with a full dressing of manure and a certain growth of luxuriant clover, the cheapest fertilizer known to our agriculture and, all things considered, the best. Whether the rotation stop with this crop, or, grass seeds having been sown with the clover seeds, one or two or three seasons of hay and pasturage follow, the ground returns to corn

Demorest's Illustrated Monthly and Madame Demorest's Mirror of Fashion, for June, is already received, and is as bright and elegant as usual. It claims to be the Model Parlor Magazine, and we believe the ladies, who ought to know best, acknowledge it to be so. It represents the UTILITY and BEAUTY of *Fashion*, rather than its FRIVOLITY and EXTRAVAGANCE.

The Horse, in the Stable and Field: his Management in Health and Disease. By J. H. Walsh, F. R. C. S.; with copious notes and additions, by Robert McClure, M. D., V. S. Porter & Coates, 822 Chestnut street, Philadelphia, Pa., publishers.

This is an English work of acknowledged authority. It has been thoroughly revised and adapted to the wants of the American farmer and amateur. Dr. McClure, the American editor, is the well known author of "The Diseases of the American Stable, Field and Farm Yard." The work contains 540 pages, and is illustrated by over 80 engravings, among them are the likenesses of many celebrated American horses. It is quite largely devoted to racing and trotting stock, but the chapters in regard to horse management in health and disease, are full and complete, giving sound instruction upon all the points that every horse owner will occasionally need to refer to. Every man who owns a horse should also own this book. It will be worth many times its cost to him every year. The publishers have issued it in a very substantial and creditable style.

Fourth Annual Report of the American Dairyman's Association, with accompanying Papers, &c., for 1868; with the Annual Report of the Ohio Dairymen's Association. Gardner B. Weeks, Secretary, Syracuse, N. Y. 133 pages.

This report will be found, we think to be full of information of interest to dairymen. It contains a list of the cheese and butter factories in the United States and Canada,—near one thousand. The addresses and discussions are given in full. Hon. Horatio Seymour, is president of the association.

Address on Agricultural Education, by Andrew D. White, Pres't of Cornell University.

Carolina Farmer.—We correct with pleasure as requested, by our contemporary, the Carolina Farmer, the mistake we made in locating it at Raleigh, instead of Wilmington, N. C.

To Farm with Profit.

This is an interesting topic, and a favorite theme with writers who would catch the eye of readers. Surely to make farming profitable is the prime interest of the thousands who dig and toil, and who get others to dig and toil for them. We find none of these writers however, who, to our thinking, go to the root of the matter. One recommends this, another that, and very good suggestions are given, and very wise precepts taught, and very useful practices set forth, but what avail one and all, if brains be not at the bottom. To make farming profitable, *set the right man about it*. There is no difference between this business and merchandise, or law, or whatever else; the man who can make either profitable, apart from accidents, is he who is educated and trained to his work through years of thought and experience, and has, besides, the mind and the personal qualities that adapt him to it. Just in proportion as the farmer has these will he, not find, but make his business profitable. The blessing of God must be added indeed; but it is the way of Providence, be it borne in mind, to help those who help themselves; that is, who help themselves in the way of His ordering, doing the work to which they are called, and in the manner that faithful servants are wont to work.

This implies adaptation, or turn of mind, as we familiarly express it, for business; instruction in its principles; knowledge of its practices, and that training in its several departments which in course of time becomes experience. Involved with these, of necessity, are mental culture and discipline in the direction of the line of business followed.

It is one of the follies and infatuations of men that any fool can farm. They go at it, therefore, continually and with perfect confidence in themselves, without any of that previous and special training that even a bootblack should have to gain for himself success and credit in his art. What wonder is it then, that we hear people constantly decrying the unprofitableness of farming and devising short methods to success in a business that they fail to make profitable because they really know nothing about it.

We find, as we have said, in the discussion of the topic, suggestions very good and useful however inadequate to the matter in hand and it was our design rather to speak of and comment on these. At the late annual meet-

leg of the Massachusetts Agricultural Society, an address, we learn from the proceedings, was delivered on "How to make farming profitable," and that it was a considerable one may be inferred from the remark of the reporter of the proceedings that it "occupied the remaining portion of the afternoon."

One of the suggestions of Mr. Clift, the speaker, was that an important defect in the general practice of our farming was "lack of capital." "More money should be invested in labor. Farm managers were also needed, and he thought, one good would result from the agricultural colleges springing up, would be in providing a class of farm managers. There were a great many wealthy men, men who were engaged in commerce or manufactures, who would be glad to invest the surplus capital in lands, if they could employ good managers; so that the young men who had been educated at these colleges, if poor, would find remunerative employment from this source, and thus benefit result to both parties.

In regard to what might be done, by a judicious outlay of capital, he referred to the results obtained by Dr. Hexamer, who was a successful market-gardener, his sales of vegetables, &c., on sixty acres, amounting last season to \$15,000. He said what the mass of farmers wanted was a system of regular rotation in crops; such as they have in some parts of Pennsylvania and New Jersey. For a five years' course it would be corn, oats, wheat, and the fourth year seed with clover, and other grass. The yield of wheat was about twenty-five bushels per acre. He spoke of clover as the great renovator of the soil, and said that clover fed to animals was worth \$9 per ton in their manure. We wanted improved machinery and better buildings, and he thought it did not pay to let stock get their living about stack yards this cold weather, as he saw in several instances in the State on his way to this convention."

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again, with an old sod crowded with decaying roots, and a bed of the best vegetable mould is offered to the coming crop. That this rotation is one of the means designed to make farming profitable no one will question.

And so of improved machinery. We know too well what has come of the reapers and mowers and thrashers, and a thousand things of less import to the general agriculture of the country; but while we look at this side of the matter, let us look into the old barn or around the stack yard of some spirited farmer, whose faith in progress and the advertisers of new implements was not checked by that sound discretion arising out of a thorough knowledge of his business, and a tale will be told us of wasted means in the purchase of worthless implements that have spoiled the profits of many a hard-worked field.

— A Minnesota man thus gives his experience of farming to the *Minnesota Monthly*: "After trying the country one season in a rented house, I purchased 27 acres of land, that had never been cultivated, and in the spring of 1867—two years ago—I commenced its cultivation, and the erection of buildings and other improvements. My whole investment for all purposes was \$4,200. With this start in farming life, I feel that any man of moderate desires may and ought to be contented.

"I have farmed this land two years—only part in cultivation. It pays. Here is the result for the first year: We have had our living except clothing and groceries, from the farm. We sold butter to customers to the amount of \$769.60. This was the product of eight to nine cows. We sold eggs and chickens for \$176, and of pork and garden stuff for \$330—making in all \$1,269.60 cash income; and paid out in expenses for the help of a man on the farm, and a girl in the house, about \$300. Myself and wife, both being in poor health, have not done much work, and no hard work. We have depended almost entirely upon hired help, but I have always looked closely after my business, and directed the work."

— The editor of the *Gardener's Monthly* says; "There is nothing that will make as good a border as Box, or some of the dwarf Arborvitæ. Of flowering plants, the best is the Perennial Candytuft. This will flower in April. The mountain or Moss Pink—*Phlox subulata*—is a pretty edging.

The Effect of Charcoal on Flowers.

A correspondent of the *Revue Horticole* says that not long ago he made a bargain for a rosebush of magnificent growth and full of buds. He waited for them to blow, and expected roses worthy of such a noble plant and of the praises bestowed upon it by the vender, but when it bloomed all his hopes were blasted. The flowers were of a faded hue, and he discovered that he had only a middling multiflora, stale colored enough. He therefore resolved to sacrifice it to some experiments which he had in view. His attention had been directed to the effects of charcoal, as stated in some English publications. He then covered the earth in the pot in which the rosebush was, about half an inch deep, with pulverized charcoal. Some days after he was astonished to see the roses which bloomed of as fine a lively rose-color as he could wish.

He determined to repeat the experiment; therefore when the rosebush had done flowering, he took off the charcoal and put fresh earth about the roots and waited for the next spring impatiently to see the result of this experiment. When it bloomed, the roses were as at first pale and discolored, but by applying the charcoal as before they soon assumed their rosy-red color. He then tried the powdered charcoal in large quantities upon petunias, and found that both the white and violet colored flowers were equally sensitive to its action. It always gave great vigor to the red or violet colors of the flowers, and the white petunias became veined with red or violet tints; the violet became covered with irregular spots of a blueish or almost black tint. Many persons who admired them thought they were choice new varieties from the seed. Yellow flowers appear to be insensible to the influence of charcoal.

— CLOVER SEED AND ABORTION.—A correspondent of the *Kansas Farmer* says: "We see in the Eastern agricultural papers numerous accounts of 'abortions' among the cows, and to some extent among 'brood mares' also. I speak of this matter to guard the reader against feeding the 'second' or 'seed' crop of clover to pregnant animals. Clover seed is (so physicians say) one of the most active emmenagogue medicines, whose 'specific action' is not to produce abortion; yet medicines of this class have a tendency that may, *per se*, produce abortion."

Cattle Breeding In-and-in.

The following observations on breeding in-and-in, are from Darwin's late work on "Animals and Plants under Domestication." With cattle there can be no doubt that extremely close interbreeding may be long carried on advantageously with respect to external character, and with no manifestly apparent evil so far as constitution is concerned. The same remark is applicable to sheep. Whether these animals have gradually been rendered less susceptible than others to this evil, in order to permit them to live in herds, — a habit which leads the old and vigorous to expel all intruders, and in consequence often to pair with their own daughters—I will not pretend to decide. The case of Bakewell's Longhorns; which were closely interbred for a long period, has often been quoted: yet Youatt says the breed "had acquired a delicacy of constitution inconsistent with common management," and that "the propagation of the species was not always certain." But the shorthorns offer the most striking cases of close interbreeding; for instance the famous bull, Favorite, (himself the offspring of a half brother and sister from Foljambe,) was matched with his own daughter, and great grand-daughter; so the produce of this last union, or the great great-grand-daughter, had 15-16ths or 63-75 per cent of the blood of Favorite in her veins. This cow was matched with the Wellington, having 63-5 of Favorite's blood in his veins, and produced Clarissa; Clarissa was matched with the bull Lancaster, having 63-75 of the same blood, and she yielded valuable offsprings. Nevertheless, Colling, who reared these animals, and was a strong advocate for close breeding, once crossed his stock with a Galloway, and the cows from this cross realized the highest prices. Bates' herd was esteemed the most celebrated in the world. For thirteen years he bred most closely in-and-in; but during the next seventeen years, though he had the most exalted notion of his own stock, he thrice infused fresh blood into his herd; it is said that he did this, not to improve the form of his animals, but on account of their lessened fertility. Mr. Bates' own view as given by a celebrated breeder, was, that "to breed in-and-in from a bad stock was ruin and devastation; yet that the practice may be safely followed within certain limits when the parents so related are descended from first class animals." We thus

see that there has been extremely close interbreeding with the Shorthorns; but Nathusius, after the most careful study of their pedigrees, says that he can find no instance of a breeder who has strictly followed this practice during his whole life. From this study and his own experience, he concludes that close interbreeding is necessary to ennoble the stock; but that in effecting this the greatest care is necessary, on account of the tendency to infertility and weakness. It may be added, that another high authority asserts that many more calves are born cripples from Shorthorns than from other and less closely interbred races of cattle.

Although by carefully selecting the best animals (as Nature effectually does by the law of battle) close interbreeding may be long carried on with cattle, yet the good effects of a cross between almost any two breeds is at once shown by the greater size and vigor of the offspring; as Mr. Spooner writes to me, "crossing distinct breeds certainly improves cattle for the butcher." Such crossed cattle are, of course, of no value to the breeder; but they have been raised during many years in several parts of England to be slaughtered; and their merit is now so fully recognized, that at fat-cattle shows a separate class has been formed for their reception. The best fat ox at the show at Islington in 1869 was a crossed animal.

The half wild cattle which have been kept in British parks probably for 400 or 500 years, or even for a longer period, have been advanced by Cully and others as a case of long continued interbreeding within the limits of the same herd without any consequent injury. With respect to the cattle at Chillingham, the late Lord Tankerville owned that they were bad breeders. The agent, Mr. Hardy, estimated (in a letter to me, dated May, 1861,) that in the herd of about fifty the average number slaughtered, killed by fighting, and dying, is about ten, or one in five. As the herd is kept up to nearly the same average number, the annual rate of increase must be likewise about one in five. The bulls, I may add, engage in furious battles, of which battles the present Lord Tankerville has given a graphic description, so that there will always be rigorous selection of the most vigorous males. I procured in 1855 from Mr. D. Gardner, agent to the Duke of Hamilton, the following account of the wild cattle kept in the Duke's park in Lanarkshire, which is about

200 acres in extent. The number of cattle varies from sixty-five to eighty; and the number annually killed (I presume by all causes) is from eight to ten; so that the annual rate of increase can hardly be more than one in six.

Sharpening Edged Tools.

The Mark Lane *Express* copies the following recipe for sharpening edged tools from a German scientific journal, for the benefit of farmers, mechanics and laborers:

"It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water to which has been added one twentieth of its weight of muriatic or sulphuric acid, then lightly wipe it off, and after a few hours set it on a hone. The acid here supplies the place of a whetstone by corroding the whole surface evenly, so that nothing further than a smooth polish is necessary. The process never injures good blades, while badly hardened ones are generally improved by it, although the cause of improvement remains unexplained.

"At length this process has been applied to many other cutting implements. The workman, at the beginning of his noon spell, or when he leaves it in the evening, moistens the blades of his tools with water acidulated as above, the cost of which is almost nothing. This saves the consumption of time and labor in whetting."

TRANSPORTATION OF TOBACCO IN KENTUCKY.—The Madisonville (Ky.) *Times* says: "Forty-one hogsheads of tobacco were recently shipped by rail from this place to Henderson; twenty-five by Mr. H. A. Powell, and sixteen by John G. Morton & Co., at a cost of only three dollars per hogshead. Previous to the completion of the road, tobacco men have paid at this season of the year from eight to ten dollars per hogshead from this place to Henderson. So it will be seen that at least five dollars is saved on each hogshead, and over two hundred dollars on the forty-one. How have the people in this county done without railroads so long? Some people grumble a good deal about the railroad tax being burdensome, but we venture to say that there are but few men who would not be willing to double the tax rather than do without the road."

Wheat—Its Production and Consumption.

In a previous article I have assumed fifty-five acres as the average area of enclosed land in farms, and that there are three million such farms now under cultivation. But as all farms have only a certain portion of the land under the plough, or in annual crops, I have assumed that only one-half can be reckoned upon for tillage crops, and that of those crops not over one-fourth (I think one-sixth nearer the fact) of breadth can be sown to wheat; and that eight bushels per acre is a high average yield. We soon discover that there must be an error somewhere in the calculation; for at fifty-six bushels per farm, we find the three millions of farms only produce one hundred and sixty-eight million bushels of wheat.

If, therefore, the statistics of the Agricultural Bureau at Washington have any significance, this quantity must be considerably below the annual product of the country. The consumption and production of wheat, however, is largely over-estimated. The national census has been little better than a guess, but still it helped some, upon the principle that the errors corrected themselves.

It has been assumed by some statisticians that the consumption of the country should be reckoned at five bushels per capita of our whole population. This is more than equal to a barrel of flour, in the present condition of our mills. For our millers would now think they had very poor mills, and poorer wheat, if they did not average a barrel of good flour from four and a half bushels; and the flour of commerce—a barrel of one hundred and ninety-four pounds—is made, upon an average, from less than four bushels and one peck of wheat. Our people are better fed than any other nation of people on the globe, but upon wheaten flour to a partial extent only.

Corn meal enters largely into the bread food of nearly all families, especially the poorer classes. At almost every meal it is found on the tables of the wealthy, as well as the poor, and for one-half the year from November to May, it is safe to claim that corn meal and its congener, buckwheat flour, form more than one-half of the bread food of the people.—This, therefore, lessens the consumption of wheaten flour by not less than one-third.

Before slavery was abolished, there were about four million of blacks whose only food was corn bread in some shape, and their masters fed upon the same heavily as much as the

slave. Whoever has been in the South has had frequent opportunities to realize the universality of "hog and hominy," as an article of diet. And herein lies the germ of an important fact in dietetic phenomena. The negroes were fed upon corn and pork, and they were healthy and prolific. Corn bread can easily supercede wheaten bread, so far as a healthful and nourishing bread-food is concerned.

It is safe, therefore, to assume that the four million of blacks and eight millions of whites in the South did not consume their share of five bushels allowed them. The consumption of wheat, then, ought to be put down thus, assuming that in the present decade population will reach forty millions:

North.....	27,000,000
South.....	13,000,000
Total.....	40,000,000

The consumption will be for the North at four bushels, or twenty bushels to the family, which I still think too high. Say one hundred and eight millions for the South at two bushels per capita, or twenty-six millions; for seed thirty millions. Thus we have:

Consumption.....	124,000,000
Seed.....	30,000,000
Total.....	154,000,000

This leaves a difference of only some two millions of bushels, in the two modes of calculation.

Either then, there must be a wider breadth laid down to wheat, or a larger acreable yield, or the assumed facts of the census must be at fault. Which is it?—*Rural New Yorker*.

MANURE FOR POTATOES.—For most things, well-decayed manure is far the best. The potato is an exception. For it, long straw matter is preferable. The further South we go, the more necessary is it that potato manure should be of the most littery character, until in Alabama it is pretty well known that the best potato crops are where the beds are covered with straw, and a little earth thrown over the straw to keep it from becoming dry.

In our own district, we have seen excellent results from burying corn stalks along in the rows, before the furrow was thrown in over them; but still, enough is not known of the value of this practice to make it a general rule.

As the planting season is now at hand, we throw out the idea for further experiment.—*Weekly Press*.

Agriculture of Continental Europe.

In the recent issue of the Transactions of the Wisconsin State Agricultural Society, the Secretary, Dr. J. W. Hoyt, gives the following conclusions as to the Agriculture of Continental Europe as compared with our own, these conclusions being reached after somewhat extended travel in 1867:

The agriculture of the most advanced European countries is superior to ours.

1. In the care, labor and expense with which the soil is prepared for the various crops. Their implements of agriculture are, for the most part, greatly inferior to ours; but they make up for this deficiency in the thoroughness and patience with which they use them; while, in the matter of fertilizing their fields, there is no comparison to be made. We are cultivating virgin soils. They are tilling lands that have borne crops for centuries. And yet their yields are greater than ours—in the case of some countries, twice as large. The secret of which lies in the fact that there scarcely anything is permitted to go to waste that would add to the productiveness of the soil. The farmers convert every available vegetable and animal substance produced on the farm into manure; and, not content with this, the cities are drained and scraped of their offal to add to the supply, and even the country highways, as I have repeatedly noticed in the best portions of England, France, Belgium and Germany, are carefully gleaned of all casual droppings.

2. It is superior in the attention there given to the rotation of crops. A farmer in the better portions of Germany, Switzerland, Belgium, England, or Scotland, who should be guilty of the reckless, hap-hazard, no-system practiced by us, would be an anomalous character and summarily punished by—starvation.

3. It is pre-eminently superior in the attention given to forestry and the extraordinary pains taken to make the landscape, and especially the highways, beautiful by the planting of useful and ornamental trees. In Germany it is common to find fruit trees—the apple, the cherry and the pear—lining the public thoroughfares for miles; thus affording a pleasant shade by the way, and at the same time delicious fruits for the enjoyment alike of the proprietor and the wayworn traveler. The time is sure to come, it is even now come, when the agriculturists of this country must give both thought and labor to the production

of timber for fuel and mechanical uses, and for the improvement of climate and the production of fruit crops, as well as to the liberal planting of orchards; and the sooner they become impressed with this necessity the better. In the timbered districts there must be a careful saving of a sufficient amount for the future, and in the great prairie districts an early and judicious planting. Let us imitate Germany in this important branch of husbandry.

4. European agriculturists have another advantage over American, in the prohibition of domestic animals from making free ranges of all public highways and such cultivated fields as would otherwise be more or less exposed. On the continent one may travel hundreds of miles without seeing a fence for protection against cattle. Innumerable farms, with a variety of valuable crops, lie side by side, as if so many individual beds in one illimitable garden; all live stock being either housed, or grazed under the care of herdsmen and dogs. To my eye, the effect of such a landscape is incomparably more pleasing, and it is certainly more economical management, where timber is scarce.

TO KEEP FOWLS HEALTHY.—The way I keep my fowls in health, I clean out the house once a week; put wood ashes under the roosts; have iron basins for them to drink from; whitewash inside of hen house with hot lime; put a little kerosene oil on the roosts once a month. The main food is oats, and cake of scraps to pick on. I never feed but once a day—at noon, or when I shut them up at four or five P. M. When they run out, then give them all they will eat. In my experience, there is no way to get diseased fowls easier than to keep them stuffed; it makes them lazy, and they won't work as much as they ought to, to keep in a healthy condition.

I never had any gapes in chickens. When any fowl begins to droop I give three large pills of common hard, yellow soap; 'tis the best thing to cleanse a fowl I know of. I follow it for three days, give them nothing to eat and plenty of pure water to drink. In desperate cases, give a half teaspoonful of tincture of lobelia. It will seldom, if ever, fail of curing. It is a very cleansing and powerful medicine for fowls.—*H. C. Wheeler, Foxboro, Mass., in Rural New Yorker.*

Experience With Hay Tedders.

We have been asked so many times what is the practical value of the Hay Tedder on small farms as well as large ones, and which is the best for general use, that, to answer all these inquiries at once, we will give our own experience in their use.

In common with other farmers, we had long felt the need of a machine for stirring hay by horse power, when in June, 1865, we happened to see, at Boston, one of Bullard's patent. After a careful examination of the working principle of the machine, and inquiring of the Plow Co., who very frankly admitted the liability of the forks to break, we bought a two-horse, eight fork one, and used it two years—cutting about 200 tons annually, and running the tedder through nearly all of it, except only such places as were rough and stony. Then it was sold and a one-horse American Tedder with sixteen forks procured to take its place, which for two years has received a more thorough trial, if possible, than the other, as it has been used on all ground, however rough and stony, running it everywhere except in swales too soft to bear a horse.

The operation of both of these tedders is entirely satisfactory. The principle objection to the Bullard being the breakage of forks, which was very frequent, involving a delay of perhaps an hour a day on an average, for repairs. Sometimes this could be attended to early in the morning, at others the machine must stop when time was priceless, and the delay of an hour involved the loss of a load or two of hay. The American Tedder at the end of two years has never caused a delay of a moment for any purpose, and is now as good as new. It is driven at a fast walk over stones and other obstructions a foot high and over any stone heap; the speed never being slackened or the machine thrown out of gear for such impediments.

Both machines were used in all kinds of grass, not excepting clover. The Bullard Tedder throws the grass higher and faster than the American. It handles clover a little too roughly. The American picks it all up from the ground and leaves it light. There's not much difference in the draft of Bullard's for two or the American for one horse. It is as hard as working a horse on a two-horse mower, perhaps a trifle harder. We had no difficulty in mowing, tedding and raking four to six acres a day with a span of horses in the

"hot term" last July. Always getting done in time to put it all in the barn the day it was cut. It is an advantage to use one horse, as it allows a change, giving a fresh horse for the rake.

As to the practical value of the tedder, it is too obvious for argument. It frequently pays for itself in a day, in saving hay from being spoiled. Ours has done this repeatedly. A tedder will pay for itself on a farm where there are fifteen tons of hay to cut.—*Vermont Record and Farmer.*

Good Roads.

As we become more civilized as a people the fact will more and more force itself upon us that our common highways are not a tithe as good as they ought to be, that it costs us twice as much in the wear and tear of horses, wagons and harness, and loss of time in moving upon bad roads, as it would keep them in good condition. We are amazed that the community will continue from year to year travelling on the most execrable roads, when so slight an expense to each property holder would remedy the evil. Even in our boasted city of Philadelphia many parts of the rural portions are so utterly neglected as to render them almost impassable. We know of highways that have not been touched for two years, and when they are attempted to be repaired, it is done so negligently and ignorantly as to be of the least permanent service.

In the counties throughout the Commonwealth, where the township authorities control the roads, the duty could not be worse attended to, except in particular regions. The old system of allowing the tax-payers to work out the amount of their road taxes in repairing the roads, cannot be too pointedly condemned. It is an utter failure, and as long as it is continued, the condition of the roads will not get any better. There should be an independent system substituted, and men appointed supervisors who know something about the business to be supervised, and a tax assessed and collected, as all other taxes are sufficient to insure the maintaining of the roads in the most thorough state of repair.—*Germantown (Pa.) Telegraph.*

A very full stomach in a horse always crowds his lungs so that he cannot go fast, or work hard, without danger. Let this be always kept in mind.

Dry Earth for Poultry Houses.

The employment of dry, pulverized earth, as the means of deodorizing poultry houses, appears to be worthy of more attention, than it has hitherto received. The fact that from 400 to 500 fowls can by this aid, be kept in one building for months together, with less smell than is to be found in any ordinary fowl house capable of accommodating a dozen chickens, is very conclusive as to its efficacy. In the building of the National Company, where this fact has been ascertained, seven or eight fowls are kept in each compartment, twelve feet by three feet and yet there is no smell or trace of moisture.

Mr. Greyelin informs us that if a much larger number are put into each run, the ground becomes moist, ceases to deodorize, and the birds at once become unhealthy. It should be stated that the droppings that fall from the perches during the night are removed from the runs each morning, and the dry earth only receives the manure that falls during the day; this has its moisture absorbed so speedily by the earth, that it at once becomes pulverized, mixed with the soil, and ceases to smell. So powerful is the deodorizing effect of the earth that it does not require to be renewed in the runs for many weeks together.—*London Field.*

THE CALIFORNIA STEAM PLOUGH.—The editor of the Butte, California, *Record* recently witnessed an experiment with the Locher Steam Plough, on which the inventors have been at work a year or two past. On this occasion the plough was run at odd spells during the day, without any particular design of showing what amount of work it was capable of doing in a given time. One gentleman, however, timed the machine while running across the field. It made four hundred feet in three minutes, ploughing a strip twelve feet wide. This is at the rate of two and one-fifth acres per hour, without allowance for turnings or stoppages, and probably when at its highest speed. There was a large crowd of people on the ground as spectators, all of whom were pleased with the performance of the little "dummy." The editor asks if thirty bushels of wheat can be raised to an acre on land ploughed only three or four inches deep and left in a lumpy condition, what may we expect to raise on land worked to the depth of six or seven inches, and thoroughly pulverized, as it is done by the Locher plough?

Depth of Covering Corn.

A correspondent of the *Germantown Telegraph* gives the following suggestions:

Cover the corn carefully, and never more than from 1½ to 2 inches deep. If planted deeper than this, it will be longer coming up, and after it comes up it will grow very well until it is three or four inches high, when it will remain stationary for ten days or two weeks. By examining we will find that the first joint is below the surface of the soil, also that the roots are decaying, while new ones are being thrown out from the joint. These new roots require some ten or fifteen days for their complete formation, and during this time the plant remains stationary as far as growth is concerned. As soon as the new roots are fully formed the old ones will entirely disappear, and the growth will proceed as usual.

From actual experiments with grains taken from the same ear and same part of the ear, I have arrived at the following result: Corn planted 1 inch deep came up in eight days; that planted 1½ inches deep required nine and a half days; that 2 inches deep, ten days; 2½ inches deep, eleven and a quarter days; 3 inches deep, twelve days; 3½ inches deep, thirteen days; 4 inches deep, fourteen and a half days; 5½ inches deep, eighteen days; 6 inches deep, twenty-one days. The last lot came up and grew until about three inches high, when it remained stationary for a long time and finally died.

An Experiment in Tobacco Planting.

HOW TO PREPARE THE GROUND.

A correspondent of the *Southern Planter and Farmer* gives the following leaf from his experience: "I submit to your readers the following experiment with half an acre of land in tobacco: On the 20th of March, 1868, it was fallowed with the Watt double plough to the depth of about ten inches, and followed with a broad foot coulter with a pair of strong horses, cutting about six inches in the subsoil (or clay rather, it being a piece of poor red stiff land,) and turning in at the same time about forty wagon-loads of woods leaves. In a few days after I sowed broadcast two barrels best lime. May 25th—I gave the whole a light dressing with stable manure; then put in 332 lbs. Peruvian guano, 2 sacks ground alum salt, 2 sacks plaster, 1 bbl. flour of bone, ploughing and cross-ploughing thoroughly with shovel ploughs, then hilled up and

planted about 10th June, cultivating in the ordinary way, but hilling up very high. Topped to twelve leaves, priming high. Result—1232 lbs. of ripe superior shipping tobacco, there being only about 300 lbs. lugs, and they almost as good as the leaf. I shall pursue the same course this year with my whole crop. Will farmers give their experience with the several kinds of guano and fertilizers in the next number of the *Planter and Farmer*? This should be done by all means."

Learning Calves to Drink.

I will give you my treatment of cows and young calves in learning the calf to drink. I let the calf suck until the milk becomes good; this I think is the best remedy for taking the cake from the cow's bag. I then take the calf from the cow in the morning, that is, let it suck the last time in the morning, and leave it until the next morning without offering anything to drink. By this time the calf is hungry, and will be ready to make an effort to drink at the first offer. I milk the cow, back the calf into the corner, take it by the under jaw with the left hand, which forces the mouth open; then, with some one to hold the dish, I dip some milk with my right hand and pour it in its mouth. I let go the left hand and force its head in the dish while it is lapping its tongue for more milk. It learns to drink soon.

Taking the calf from the cow in the morning, it will not make a noise through the day, and in the night it will lay quiet if the cow is not permitted to remain in sight.—*Cor. Rural New Yorker.*

The potato fever rages badly. During last week a farmer in Brandon, Vt., sold 35 barrels Early Rose potatoes at \$35 and \$40 per barrel, five bushels Bresee Prolific, No. 2, at \$60 per bushel, one potato of No. 4 Prolific, at \$30, and two of the No. 6 species at \$10 each.—*Ex.*

It is said that when mechanics have land they generally give better cultivation than farmers and consequently have more grapes, pears, strawberries and watermelons, and earlier potatoes and cucumbers. They devote more care and labor to a small place and, reap a larger profit from it.

F. C. Warren, of Reading, Vt., recently lost a valuable cow from feeding her with hay in which was mixed the dried stalk and leaves of the common meadow poke plant.

SUNDAY READING.

Very many learned men, both ancient and modern, do by the *sign of the Son of Man* understand the Cross. S. Jerome, S. Chrysostom, and Venerable Bede upon this place, affirm this sign to be no other than the sign of the Cross. The Ethiopian Church is so peremptory on this matter, that it is put into the articles of their creed, as learned Grotius informs us. There is hardly anything the ancient Fathers are "more unanimous in, than this. What indeed can be more honorable to our Lord and Saviour, or more full of terror to His enemies than that the Cross of Christ, which they accounted foolishness, and, more than so, esteemed the greatest reproach of the Christian faith, should at that day be made the herald to proclaim His coming, and to call all nations of the world to appear before Him?

What shall hinder man or woman, under the influence of so powerful an opiate to their understanding, as strong drink, from proceeding to any crime? Nothing on their own part, for they have drunk themselves into the condition to be their own tempters; shame, fear, prudence, and reason, being all laid asleep.

We must look unto heaven, to the very throne, the royal throne; for there sits the first-fruit of mankind. He will certainly come again, leading all His hosts along with Him, the legions of angels, and several squadrons of archangels, the societies of the martyrs, the quires of the righteous, the tribes of the prophets and apostles; and in the midst of these immaterial camps, the King himself will appear in a certain unutterable and inexpressible glory.

Why do we trouble ourselves with things far off, that concern not our case? Why puzzle we our thoughts with mere curiosities, that no ways conduce to our improvement? Go not after these, my soul, but look to thyself and thy duty. Have we not business enough to provide for the coming of our Lord, but we must lose our time in enquiring when He will come? Have we not certainty enough in the solid arguments of faith? But we long to hearken after new revelations. Go not after these, my soul, but look to thyself and thy duty.

There is no oil to be bought by the foolish virgins, when the Bridegroom is come. Noah entered the ark before the flood came; Lot went out of Sodom before it rained fire and brimstone; the children of Israel sprinkled the blood of the Paschal lamb on their doors before the destroying angel slew all the first-born in Egypt; in Ezekiel, in the Revelations, the servants of God are marked and sealed before God's wrath is executed. All these are types, signifying that, if we mean to escape, we must take advantage of the time, "agree with our adversary in the way, lest he pass us over to the judge, the judge to the sergeant, the sergeant to the gaoler." . . . Wherefore provide physic before thou art sick, and righteousness before judgment.

All things in the world do take their time; the bird to build his nest and the husbandman to sow his seed, the mariner to go to sea, the gardener to set his trees, the sick patient to take physic, the cook to season meats, and the dresser of the vineyard to gather his fruit. It will be too late to build in summer, to sow in harvest, to go to sea when the ship is launched, to transplant trees when they are old, to take physic when we are dying, to season meats when they are unsavory, and when winter is come to gather fruit.

There is nothing between us and heaven or hell, but life, of all things the most fragile and uncertain. All this is as real as it is terrible; brave it as we will, this, and this only, is the end of life. Eternity is not annihilated by our turning away our thoughts from it. It subsists, it advances, and death will give a dreadful solution to every doubt of its reality.

Living in an age of extraordinary events and revolutions, I have learned from thence the truth, which I desire might thus be communicated to posterity: that all is vanity which is not honest, and that there is no solid wisdom but in real piety.

In the marriages of this world some only attend the nuptials, and it is another person who is married; in the Church all who attend, provided they come in a proper spirit, become the bride.

Christian perfection, in outward conduct, consists not in doing extraordinary things, but in doing ordinary things extraordinarily well.

Persons ordering Goods of our advertisers will confer a favor by stating that they saw the advertisement in the "American Farmer."

WORTHINGTON & LEWIS,
Publishers.

Baltimore Markets, May 22, 1869.

COFFEE.—Rio, 16a17½ cts., gold, according to quality; Laguayra 15a18½ cts., and Java 22a23½ cts., gold.

COTTON.—We quote prices as follows, viz:

Grades.	Upland.	Gulf.
Ordinary.....	25 a—	00
Good do.....	26 a24½	00
Low Middling.....	27 ¼a27 ½	00
Middling.....	28 ¼a28 ½	00

FERTILIZERS.—Peruvian Guano, \$58; California \$70; Rodunda Island, \$30; Patapasco Company's, \$60; Reese & Co's Soluble Pacific Guano, \$60; Navassa Guano, \$30; Chesapeake Guano, \$60; Flour of Bone, \$60; G. Ober's (Kettlewells) AA Manipulated, \$70; A do. \$60; Ammoniated Alkaline Phosphate, \$55; Alkaline Phos. \$45; Baltimore City Company's Fertilizer, \$40; do., Flour of Bone, \$60; do., Ground Bone, \$45; do., Poudrette, \$25; Baugh's Raw-bone Phosphate, \$56; Baugh's Chicago Bone Fertilizer, \$48; Baugh's Chicago Blood Manure, \$48; Maryland Powder of Bone, \$48; Rhodes' Super-Phosphate, \$50; Rhodes' Orchilla Guano, \$30; Lister's Bone Super-Phosphate, \$55; Berger & Buta's Super-Phosphate of Lime, \$55; Andrew Co's Super-Phosphate of Lime, \$60; Zell's Raw Bone Phosphate, \$55; Zell's Super-Phosphate of Lime, \$60—all per ton of 2,000 lbs.; Pure Ground Plaster, \$14.75 per ton, or \$2.25 per bbl. Shell Lime slaked, 6c., unslaked, 10c per bushel, at kilns.

FLOUR.—Howard Street Super, \$5.50a6.25; High Grades, \$7.25a8.00; Family, \$5.50a10.00; City Mills Super, \$5.50a6.25; Baltimore Family, \$12.00.

Rye Flour and Corn Meal.—Rye Flour, \$6.00a6.50; Corn Meal, \$4.

GRAIN.—Wheat.—Good to prime Red, \$1.70a2.00; White, \$1.50a1.90.

Rye.—\$0.00a0.00 per bushel.

Oats.—Heavy to light—ranging as to character from 68a75c. per bushel.

Corn.—White, \$0.88a0.94; Yellow, \$0.86a0.88 per bushel.

HAY AND STRAW.—Timothy \$23a27, and Rye Straw \$16 a\$20 per ton.

PROVISIONS.—Bacon.—Shoulders, 14½ cts; Sides, 16½a17½ cts.; Hams, Baltimore, 20 cts. per lb.

SALT.—Liverpool Ground Alum, \$1.90a2.00; Fine, \$2.70 a\$3.00 per sack; Turk's Island, 50a55 cts. per bushel.

SEEDS.—Timothy \$—a—; Clover \$—a—; Flax \$2.55.

Tobacco.—We give the range of prices as follows:

Maryland.	
Frosted to common.....	\$4 00a 5.00
Sound common.....	5.50a 6.50
Middling.....	8.00a10.00
Good to fine brown.....	11.00a13.00
Fancy.....	17.00a30.00
Upper country.....	7.00a35.00
Ground leaves, new.....	3.00a12.00
Ohio.	
Inferior to good common.....	4 00a 6.00
Brown and greenish.....	7.00a 8.00
Medium to fine red and spangled.....	9.00a13.00
Fine spangled.....	12.00a25.00
Fine yellow and fancy.....	30.00a40.00

Wool.—We quote: Unwashed, 25a30 cts.; Tub-washed, 43a46 cts.; Pulled 25a35 cts.; Fleece—a— cts. per lb.

CATTLE MARKET.—Common, \$5 00a6.00; Good to fair, \$7.00a8.00; Prime Beeves, \$8.00a9.50 per 100 lbs.

Sheep.—Fair to good, 6a8½ cts. per lb., gross.

Hogs.—\$13.75a14.75 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by HENRY & Co., Produce and Commission Merchants, 67 Exchange Place.

BALTIMORE, May 27, 1869.

BUTTER.—Western solid packed 32a37 cts.; Roll Butter, Glades, —a—; Goshen, 41a44.
BEEF.—41a44 cts.
CHEESE.—Eastern, 23a25; Western, none here.
DRIED FRUIT.—Apples, 14a16; Peaches, 12a25.
EGGS.—28 cents per dozen.
FEATHERS.—Live Geese, —to— cents.
LARD.—Western, 20; City rendered, 21 cts.
TALLOW.—11a11½ cents.
POTATOES.—65a80 cts. per bbl.

NEW ADVERTISEMENTS—JUNE.

Implements—Heacock & Co.
Agricultural Steamer—Edmund Wolf.
Premium for Essay—Edmund Wolf.
Fertilizers—Wm. Crichton & Son.
" B. M. Rhodes & Co.
Sale of Cattle—C. H. Shinn.
Belmont Stock Farm—R. Ficklin.
Land Agency—Wedderburn, Shotts & Co.
Chester White Pigs—J. W. & M. Irwin.
Horse for Sale—"American Farmer."
Situation Wanted—
Agents Wanted—J. Ahern.
" Johnson, Clark & Co.
" American Wire Co.
Photographs—Spirit Picture Co.

Contents of June Number.

Reminiscence.....	353
Work for the Month.....	355
The Vegetable Garden.....	357
The Flower Garden.....	357
The Fruit Garden.....	357
Peach Trees in Pots.....	358
Drainage—Rotation—Manuring.....	359
Agricultural Charity.....	360
Making a Poor Farm Rich Without Manure.....	361
Hungarian Grass.....	362
Fruit and Vegetables for the Northern Markets.....	363
Keeping Fowls in Large Numbers.....	364
The Swallows and the Phoebe.....	364
Gypsum.....	365
Tea Culture in Tennessee.....	365
Manuring Market Gardens.....	366
Horses for Farm Work.....	366
Hogs Looking Up.....	366
Periods of Gestation.....	367
The English House Sparrow.....	367
Cruelty to Animals.....	367
Preservation of Meat.....	368
Clover and Timothy.....	368
Legal Zoology.....	368
Selection of Seed Corn.....	369
The Profits of Tobacco Culture.....	369
Editorial Notices.....	370
Draining.....	371
Likeness.....	371
Book Notices.....	371
To Farm with Profit.....	374
The Effect of Charcoal on Flowers.....	375
Cattle Breeding In-and-in.....	377
Sharpening Edged Tools.....	378
Transportation of Tobacco in Kentucky.....	378
Wheat—Its Production and Consumption.....	378
Manure for Potatoes.....	379
Agriculture of Continental Europe.....	379
Manure for Potatoes.....	379
To Keep Fowls Healthy.....	380
Experience with Hay Feeders.....	380
Good Roads.....	381
Dry Earth for Foultry Houses.....	381
The California Steam Plough.....	381
Depth of Covering Corn.....	382
An Experiment in Tobacco Planting.....	382
Learning Calves to Drink.....	382
Sunday Reading.....	383

INDEX TO VOLUME III.—SIXTH SERIES.

July, 1868, to June, 1869.

See Monthly Farm Work, Fruit, Flower and Vegetable Garden, of each number, for subjects not alphabetically indexed.

A.	PAGE		PAGE
Address of Dr. J. O. Wharton.....	309	Breeding, Purity in.....	851
Advertising, about.....	374	Brittany Cattle.....	94
Advertisement, Dishonest.....	248	Broom Corn, Cultivation of.....	333
Agricultural Era.....	176	Buckwheat.....	23
" Fairs in Ky.....	223	" Raising.....	17
" Journals.....	343	Butter, Baltimore.....	148
" Professors.....	267	" How to produce good.....	173
Agriculture, German Sytem of.....	57	" Making.....	190
" of Continental Europe.....	379	" Philadelphia.....	148
" Scientific.....	327	" making in Winter.....	315
Alsike Clover.....	216		
"American Farmer" as an advertising medium.....	371	C.	
Animals, Cruelty to.....	367	Cabbage, how many to the acre.....	55
" that chew the cud.....	100	" as a Field Crop for Dairy Stock.....	334
Apples.....	68	Calves, learning them to drink.....	382
" Trees, Dwarf.....	208	Calves, raising without milk.....	261
Artificial Manure.....		Camp Sewage Manure Farm at Aldershot.....	330
" Commercial Value of..	91	Canals and Railroads.....	243
Ashes for Wheat.....	298	Carbolic Acid, Remedial value of, in Glanders and Texas Cattle Disease..	313
" Phosphoric Acid in.....	111	Carbolic Acid.....	339
Association, Maryland. State Agricultural and Mechanical...19, 26, 50, 83, 307, 342		Cruelty to Animals.....	367
		Cattle Breeding In-and-in.....	377
B.		Cattle, Brittany.....	94
Bad Reasoning.....	244	" Change of Pasture.....	95
Basket Willow.....	22	" Channel Island.....	201
Beans, Lima.....	316	" Convention.....	216
Benefactors, Agricultural, of Virginia... 174		" Disease.....	87
Birds, Nature and Value of.....	11	" Fever.....	126
Bones, Dissolving.....	306	" Flies on.....	61
" Preparation for use as a manure..	273	" Improved, for Maryland.....	189
Borrowed Matter, Credit for.....	53	" Texas Disease.....	203
Borrowing Nuisance.....	93	Cemetery of a former creation.....	232
Bots and Colic in Horses.....	5, 40, 159	Champagne Cider.....	100
Box Edging, how to manage.....	313	Charcoal, effect of, on flowers.....	376
Brains in Farming.....	314	Charity, Agricultural.....	360
Bran for Milch Cows.....	261	Check Rein.....	163, 170
		Chemistry, Modern, the wonders of.....	183

INDEX TO VOLUME III, SIXTH SERIES.

PAGE	PAGE
Peach Trees, mounding up..... 230	Roads, Good..... 361
Peanut, mode of culture..... 241	Roller, use of..... 250
Percherons, a large importation of..... 81	Rose Culture, new system..... 227
Philadelphia Butter..... 148	Rotation..... 230
Phosphates and Superphosphates..... 8	
" in Agriculture..... 262	S.
Phosphatic Deposits in S. Carolina..... 84	Salt..... 111
" Manure for Fruit Trees..... 297	" and Lime Mixture..... 222
Pigs, Disease of..... 344	" " to prevent grain from lod'g..... 73
Plan of a Hog Pen..... 326	" Brine a preventive against smut..... 206
Plants as Anti-miasmatics..... 302	Scale, the Sampson..... 25
" as Chemists..... 171	Scientific Agriculture..... 327
Ploughing—Deep or Shallow?..... 49, 71	" rascality in Congress..... 176
Plough, the California Steam..... 381	" tillage, triumph of..... 80
Ploughs, hardening the mould board of.. 191	Scriptures and Science..... 176
" Sulky..... 248, 296	Seeding, thin..... 287
Policemen, our new..... 112	Seed Corn, selection of..... 360
Politics in Agricultural Journals..... 52	Seed Wheat Experimental Farm..... 110
Poor Farm, making rich without manure 361	Sheep, a word for..... 47
Poor Land, to improve without rest or	" beneficial to a farm..... 235
clover..... 25	" economy..... 59
Potash as a Fertilizer..... 272	" experiments in feeding Leicester
" Preserving..... 145	and Merino..... 47
Potato Bugs..... 91	" feeding for manure..... 187
" the coming one..... 275	" foot rot in..... 234
" Rot among new varieties..... 253	" for our surplus lands..... 135
Potatoes by the pound..... 210	" improvement of land by..... 344
" extraordinary..... 242	Society, Agr'l of Alleghany Co., Md.... 372
" keeping early ones..... 55	" Agr'l of Anne Arundel Co., Md: 183
" manure for..... 379	" Border Agricultural, of Virginia 121
Poultry, fresh importation of..... 268	" Agricultural, of Fred'k Co., Md. 114
" Houses, dry earth for..... 381	" " Georgia State..... 310
" Raising in England..... 279	" " of Shelby Co., Tenn. 124
" Show..... 348	" " Shenandoah Valley 276
Prices, Crops and..... 18	Soil, effects of weathering on..... 76
Professors, Agricultural..... 267	Sold..... 244
Profits of Farming..... 16	Solomon's Island in the Patuxent..... 187
Pumpkins among Corn..... 26	Sorghum Sugar..... 343
	Sorrel and Sour Soils..... 340
Q.	" philosophy of its cause and cure.. 346
Quinces—how can I raise them?..... 38	South Carolina, phos. deposits of..... 84
	Sowing, thick vs. thin..... 237
R.	Sparrow, the English House..... 367
Railroads..... 339	State Agr'l and Mech'l Asso'n of Md.. 19, 26,
" and Canals..... 243	50, 83, 307, 342
" Baltimore and Ohio..... 115	Steam Cultivators..... 157
" Baltimore and Potomac..... 121	Steamer, Prindle's Agricultural..... 371
Ramie..... 221	Stick to one thing..... 319
Reminiscence—fifty years ago... 280, 321, 353	Sting of a bee, remedy for..... 108
Report, Agricultural, for October, 1868.. 175	Stock—how much for a tenant..... 279
" of Commissioner of Agriculture. 215	Stomach..... 75
" of Department of Agriculture.. 215	Strawberry Market..... 137
Rinderpest..... 29	Strawberries..... 315
" Report of N. Y. Ag. Society. 266	" in Alabama..... 87

INDEX TO VOLUME III, SIXTH SERIES.

PAGE		PAGE
381	Strawberries, marketing	191
350	" salt water for	310
237	" varieties of	142
330	Straw—too much for the grain	90
	Study and Labor	231
111	Stumps, destruction of	55
322	Sugar and the Sugar Beet	299
d'g 78	Sumac, American	329
296	" the use of	358
25	" value of, as a wine	332
327	Sulky Cultivators	336, 340
176	Superphosphate	8, 207
90	Surveys, County Agricultural	223
176	Swallows and the Phebe	364
287	Swine, breeding and feeding	298
300	" cooked food for	284
110		
47	Tanning	77
353	Tea Culture in Tennessee	365
50	Team, have a good	318
	Terrapins	255
47	Texas Cattle Disease—remedial value of	
187	Carbolic Acid	313
204	Thin seeding	287
183	" sowing	107
344	Thorough Cultivation, demands of	104
372	Tillage, deep or shallow	205
180	" Scientific, triumph of	80
121	Timber, time to cut	134
114	Timothy	88
310	" and Clover	368
124	Tin Pails for dairy purposes	150
276	Tiptree Hall Farm	156
76	Tobacco and Cotton	282
244	" charges on	23
187	" culture, profits of	369
343	" Miller—destroying it	39
340	" planting, experiment in	382
346	" sale by sample	127
84		
337		
67		
26,		
42		
57		
71		
9		
8		
5		
7		
5		

	PAGE
Tobacco trade of Baltimore.....	238
“ transportation of, in Kentucky.....	378
To Farm with Profit.....	374
Tomato Vinegar.....	48
Tree, character of a good.....	301
Trees, distance of planting.....	211
“ Fruit	39
“ newly set, protection of	94
“ stirring soil around	163
V.	
Vegetables and Fruit for the Northern markets.....	363
Vinegar from apples.....	175
Virginia Lands, value of.....	45
Volume, close of.....	370
W.	
Weaning Colts.....	268
Weathering, effects on soil.....	76
Weeds, treatment of.....	179
What shall we do?.....	56
Wheat	88
“ and Clover.....	153
“ ashes for.....	298
“ bran.....	311
“ crop.....	51, 173
“ degeneration of.....	269
“ growing, does it pay?.....	89
“ its production and consumption..	378
“ raising at the West	223
“ the yield of.....	146
“ varieties of.....	86
Where does the Laugh come in?.....	371
Willow, Basket.....	22
“ the Osier, culture of.....	272
Wine, preservation of.....	92
Wool, growth in the U. States.....	205
Z.	
Zoology, Legal.....	366

Charles Dickens—Hans Andersen.

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[Signed] B. M. RHODES & Co.

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Washington, (Chalybeate),	Coyner's Sulphur,
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H. J. CHAMBERLIN,
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SOUTH KORTRIGHT, N. Y., Jan. 31, 1868.

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S. R.

American Agriculturist, April 8, 1868.

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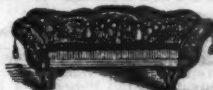
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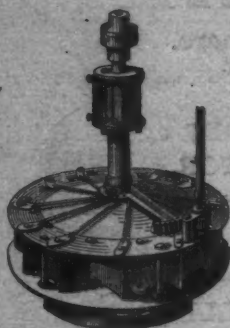
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